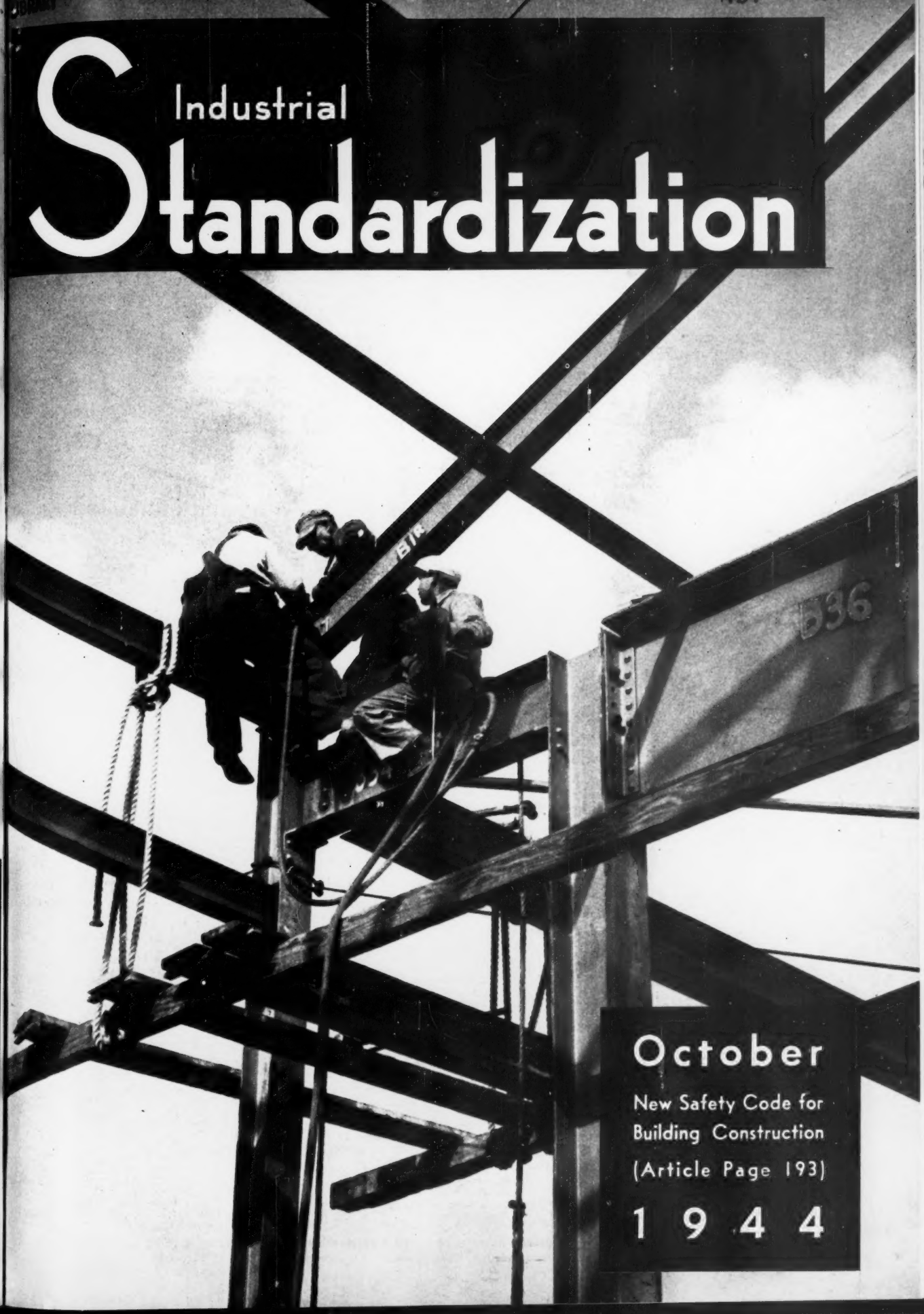
NOV 28 1944

# Industrial Standardization




October

New Safety Code for Building Construction

(Article Page 193)

1944

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# Industrial Standardization

Published Monthly by

American Standards Association

70 East 45th Street, New York 17, N. Y.

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## This Issue


Page

**Safety—**
- New Safety Standard for Construction Industry. By Floyd E. Frazier ..... 193
- Missouri Health Authorities Want More Toxic Dust Standards ..... 214
- New Member of SCCC Executive Committee.. 214

**Building—**
- Survey Emphasizes Role of Building Codes... 208
- Metal Lath Simplification Eliminates 216 Items 205

**Consumer—**
- OPA Takes Steps to Stop Butter Upgrading.. 208
- OPA Reorganizes Standards Set-up..... 204

**International—**
- International Labour Office Publishes Monograph on Abrasive Wheels. By Dan F. Hayes ..... 219
- United Nations Standards Committee Opens New York Office ..... 209
- New Standards from Other Countries..... 219
- Canadian and U.S. Mission Meets With British. 210

**China—**
- Industrial Standardization in China. By Beue Tann ..... 195
- Reck Leaves to Serve China..... 204

**Latin America—**
- Uruguayan Standards President Visits U. S.... 198
- ASA Receives Brazilian Publications..... 210
- Industrialization and Standardization Trends in Latin America. By C. T. Brady, Jr... 202

**Post War—**
- Post-War Standardization. By J. B. Carswell... 211
- ASA Post-war Program Studied by Standards Council Committee ..... 208

**Photography—**
- Committee Asks Comments on Proposed Standards for Microfilm and Microfilm Readers. By Oscar W. Richards..... 206

Page

- New War Standards Give Dimensions for Camera and Projector Apertures..... 212

**Standards for the War—**
- How the Army and Navy Develop Joint Army-Navy Specifications. By Colonel B. L. Neis ..... 197
- Packaging Manuals for War Use May Influence Peacetime Standards. Review by Albert W. Luhrs ..... 201
- WPB Conservation Division to Be Discontinued ..... 205
- Navy Asks NBS to Develop Standards..... 214

**ASA Member-Bodies—**
- ASME and ASTM Receive Ordnance Distinguished Service Award ..... 199
- ASTM Acts on New Standards ..... 199
- ASTM Issues Compilation of Coal and Coke Standards ..... 198
- Bailey Named President by ASME ..... 200
- ASTM Reports Revisions in Malleable Iron Standards ..... 204
- ASTM Advances Publication of Its Book of Standards ..... 212
- ASA Committee Studies Relations with Member-Bodies ..... 204

**Service to ASA Members—**
- Company Member Application for Free Standards ..... 215
- Standards Issued by Associations and Government ..... 213

**News About ASA—**
- New Company Members of ASA..... 210
- American Standards Activities..... 217
- News About ASA Projects ..... 218

**General—**
- Vermilya Director of Housing Foundation.... 198
- Correction in War Standard..... 207


The Pictures—Page 192—National Safety Council; 194—Charles Phelps Cushing; 201—British Press Service; 203—C. T. Brady; 207—Spencer Lens Company; 219—Norton Company.


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**Standardization is dynamic, not static. It means not to stand still, but to move forward together.**

Subscription price $4.00 per year (foreign $5.00); Special to schools and libraries $2.00 (foreign $3.00); single copies 35 cents

October, 1944 Vol. 15, No. 10

Re-entered as Second Class Matter July 31, 1943, at the Post Office at New York, N. Y., under the Act of March 3, 1879.

Good lighting—and adequate wiring—essential to the safety of workers on construction jobs, are required standard practice in the new Safety Code for Building Construction

# New Safety Standard For the Construction Industry

by Floyd E. Frazier[1]

*Secretary, Sectional Committee for the Construction Code*

APPROVAL on June 7, 1944, of the American Standard Safety Code for Building Construction, A10-1944, signalizes the passing of an important milestone in the progress of the construction industry.

### The Problems Before the Industry

Construction is one of our major industries. A pre-war annual normal business volume of 9½ billions of dollars was increased to more than 15 billions during construction of the national war production plant. Relatively inactive at present, the industry is certain to experience increased activity in the post-war period.

Construction uses a greater portion of its operating income for accident costs than any other major industry. Average compensation rates for the classifications covering most of the exposure (excavation, concrete work, masonry, carpentry, and steel erection) are about three times those for other heavy industries in which the hazards are comparable and in which the problems once appeared equally difficult. Compensation rates do not cover all accident losses but it should be conceded that the indirect losses will vary with those which are insurable. Improvement in accident experience is, therefore, vital to the industry as a matter of business efficiency. It will also play its part in promoting favorable public relations and in counteracting public demand for increasing government regulation.

Construction's accident problem has been made difficult by absence of organized efforts and of uniform policies concerning safety. Individual safety-minded contractors can apply to their own operations, of course, standards which react to their personal benefit. Improvement on an industry-wide basis will, however, be accomplished only when all contracts are undertaken on the basis of uniform standards for safety.

The need for uniform standards has long been recognized. Under sponsorship of the National Safety Council and the American Institute of Architects, a committee was organized, and held its first meeting on October 2, 1930. Since that time several proposed drafts have been completed, but securing agreement from all interests involved was difficult due to the absence of widely accepted standards on many of the numerous problems involved.

### Purpose of the Code

The code is intended to summarize the best practices in vogue throughout the construction industry and to make them available, in the simplest possible form, to all members of the industry. Its purpose is, therefore, primarily educational. Its usefulness will depend upon the degree of voluntary acceptance by individual construction companies. It is hoped also that it will serve as a guide to public or other agencies which formulate standards for application to the construction industry.

### Scope of the Code

The code applies only to building construction and contains the basic requirements for operations usually encountered in such work. It does not include regulations necessary for specialized types of construction, examples of which are highway construction, power line construction, and lock and dam construction. It will not duplicate the contents of the many recognized codes for processes or operations common to construction and other industries. In some instances, as in the case of welding operations, reference has been made to the complete welding code but condensed requirements essential to construction work have been included also in this construction code.

### All Common Problems of Construction Work Are Covered in Thirteen Parts

The code contains thirteen major parts, each of which covers all the problems commonly encountered in the indicated phase of operations. Titles and contents of the thirteen parts are:

*Part 1—Demolition:* Warning signs and lights; Public protection; Removal of materials; Stairs, passageways and ladders; Removal of walls; Catch platforms; Removal of floors: Storage space; Demolition of steel construction.

*Part 2—Excavation:* Public protection; Sheet piling, shoring and bracing; Jacks; Ramps and runways; Trenches; Power-driven shovels; Trucks; Wheelbarrows.

*Part 3—Welding and Cutting:* Arc welding; Storage and use of cylinders; Coupling cylinders; Regulators; Hose connections; Blowpipes and torches; Eye protection.

*Part 4—Piling:* Installation and inspection; Floating rigs; Operating rules.

*Part 5—Handling and Storing Materials:* Lumber; Cement and lime; Brick; Blocks; Reinforcing and Structural Steel; Corrugated and flat iron; pipe; sand, gravel and crushed stone.

*Part 6—Blasting:* Storing and handling explosives; Transportation; Drilling, loading and firing; Inspection after blasting; Mudcapping; Misfires.

*Part 7—Compressed Air Work:* Hours of labor; Compression and decompression; Gages; Lighting; Signals; Sanitation, Medical attendance and regulations; Temperature and ventilation; Compressor plants; Locks and Shafts; Safety shields; Fire protection.

*Part 8—Derricks:* General requirements; Signal systems; Breast derricks; Pipe-laying derricks; Gin poles; Slings, hooks, and sheaves; Ropes and chains.

*Part 9—Scaffolds:* General requirements; Built-up scaffolds; Swinging scaffolds; suspended scaffolds; Outrigger Scaffolds, Miscellaneous bricklayers' and carpenters' scaffolds; Float scaffolds; Ladder jacks and window jacks; Roofing brackets; Boatswains chairs; Tubular steel scaffolds.

[1] Construction Safety Engineer, National Safety Council.

*Part 10—Ladders:* General requirements; Side rails; Rungs, steps, and cleats; cleat ladders; Miscellaneous types of ladders; Cages and landings; Rules for use of ladders.

*Part 11—Hoists and Elevators:* General requirements; Inside and outside hoistways; Engines; Bucket towers; Cables and sheaves; Signal systems; Workmen's cars.

*Part 12—Temporary Floors, Stairs, Railings and Toeboards:* Temporary flooring; Stairs and stairwells; Railings and toeboards; Floor and wall openings.

*Part 13—Housekeeping; Temporary Wiring and Lighting, Temporary Sanitation, Salamanders:* Housekeeping requirements; Installation of wiring and lights; Disposal of waste material; Sanitary facilities; Use of salamanders; Life line and safety belts.

### Interpretations and Exceptions

The purpose of the construction code is to accomplish safety. The requirements are minimum, but it is recognized that varying conditions may at times make alternative methods or materials necessary. Therefore, under "Interpretations and Exceptions" the code stipulates that in cases of practical difficulty it is expected that the administrative authority will grant exceptions from the literal requirements of the code, but only if reasonable safety is thereby secured.

**Demolition hazards are assigned an entire chapter in the new construction safety code.**

In accordance with the procedure of the American Standards Association, membership of the sectional committee on the Construction Safety Code, A10, was distributed to provide representation for the six interests involved; namely:

1. Manufacturers of materials and equipment
2. Employers
3. Employees
4. Governmental bodies
5. Independent specialists
6. Insurance carriers

In accordance with these requirements, the following organizations were represented on the committee, working under the sponsorship of the American Institute of Architects and the National Safety Council:

Samuel R. Bishop, *Chairman*
Floyd E. Frazier, *Secretary*

American Institute of Architects (Sponsor), *Samuel R. Bishop*
National Safety Council (Sponsor), *R. J. Reigeluth; W. A. Hazard*
American Society of Civil Engineers, *W. J. Barney*
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The American Standard Safety Code for Building Construction, A10.2-1944, may be obtained from the American Standards Association and from the National Safety Council at $1.10 per copy.

Members of the American Standards Association are entitled to 20 percent discount on all approved American Standards purchased through the ASA office. Members of the National Safety Council, who purchase through that organization, will secure reduced prices as on other Council publications. Quantity prices are available on request.

# Industrial Standardization in China

## by Beue Tann

*Vice-Minister of the Ministry of Economic Affairs, Chairman of the Chinese Standards Commission*


PLANS for the industrialization of China are progressing despite difficulties of the war and the occupation by the enemy of what was formerly the main industrial section of the country. These plans include standardization as an essential element in industrial progress. A standards organization was set up in 1931 by the Government and has already operated with some success.

A few words regarding the general plans for industrialization will aid in the understanding of the new standards set-up, and the reasons for the form it is taking.

The general course followed in China at the present time is in line with the policies set forth by Dr. Sun Yat-sen. It was his view that an intermediate policy, partial government ownership, partial private ownership, would be better suited to China, than an economic system based on entire private ownership like that of the United States, or one of complete government ownership like that of Russia today. Following this principle, the Chinese Government is now moving towards the operation of heavy industries—mining, iron and steel, transportation, communication, electric power, and the allied manufacturing industries in general. The manufacture of most consumer goods and the operation of lighter industries, however, are to be left to private initiative.

### Government Takes Initiative

During recent years, different standards have been used by the domestic industries, which in the long run will hinder the adoption of a unified and rational standardization. The Government has been forced to take the initiative in the systematic development of a large number of standards needed before modern large-scale industry is developed in China. As a matter of fact, we are standing on the threshold of industrialization now, since we have the advantage of the experience of all the more highly industrialized countries. While taking advantage of their successes, we can at the same time learn to avoid their mistakes.

To carry out the standardization program which the Chinese Government recognizes as being essential to the development of industry in China, the Chinese Standards Commission was reorganized in September, 1943 under the Ministry of Economic Affairs. This Commission roughly corresponds to the Standards Council of the American Standards Association and consists of 80 members individually selected. These members are carefully chosen, from the military organizations; from other ministries; from independent agencies such as the Chinese Institute of Engineers; from college professors; and from independent manufacturers. An attempt is made by the Ministry to select the Commission's membership to represent a typical cross section of those who use such standards as well as those who are qualified to prepare such standards.

A group of ten members has been appointed to serve as an Executive Committee of the Commission, corresponding to the Board of Directors of the American Standards Association.

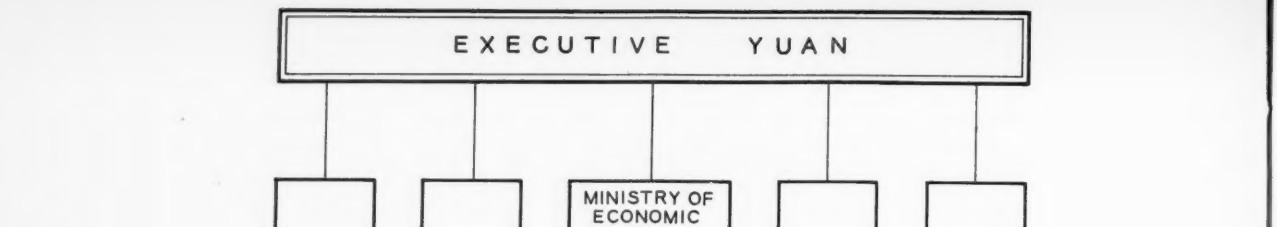
The administrative work will be handled, temporarily, by the Standards Division attached to the Bureau of Weights and Measures, which is also a unit under the Ministry of Economic Affairs. This division has a staff of about 20 members and performs the secretarial and general work for the Standards Commission.

Fortunately for our standardization program, this staff includes men who are capable of translating for us standards published in English, Swedish, Russian, French, and German.

In this connection, we also consider ourselves fortunate to have arranged through the United States Department of State for a representative from the United States to serve as adviser on standards to the Chinese Government. As announced on page 204 of this magazine, Mr. Dickson Reck, formerly head of the Standards Division of the Office of Price Administration, has left for China to serve in this capacity.

The work of the Chinese Standards Commission is carried on through subcommittees, the members of which include experts who are not members of the Commission itself, but are authorities in specific branches of industry. These subcommittees prepare the standards for consideration by the Commission. After approval by the Commission and ratification by the Executive Yuan (corresponding closely to the cabinet of European countries) the standards are promulgated by the Ministry of Economic Affairs. Standards so promulgated become mandatory on all branches of the government and industry, not only for purchase of materials, but also for use both in those industries operated by the government and in those operated by private enterprises.

Thirty standards, including most of the basic standards, such as the Standard Rules for Drafting (similar to the Continental European system), screw threads,




**How the Chinese work on standards is organized under the Executive Yuan**

standard shaftings and bores, preferred numbers, etc, have already been issued.

Among the standards now being processed is the standard for paper sizes. The metric size will be favored. This system is the latest development adopted by all Continental European and Scandinavian countries and is in accordance with the metric sizes for drawings, forms, and prints. The standards for tolerances and materials are also in progress.

### Standardization to Prevent Confusion in Post-War Reconstruction

China will be an import country of industrial equipment and manufactured goods for a considerable time to come. In the past, people in China were not generally aware of the importance of standards. Industrial and other equipment, as well as manufactured goods imported, comply with the national standards preferred by the supplying countries. We hope that the most important standards can be established before the beginning of our post-war industrialization and reconstruction to obviate the past errors and confusion.

As a young nation industrially, we can benefit from the experiences of nations that have already gone through the process of shaping their standardization programs and less difficulty will be encountered.

### Weights and Measures Problem Is on Way to Solution

The problem on weights and measures, which is the responsibility of the Bureau of Weights and Measures, already is well on the way to its solution. Before the Bureau was given responsibility for this fundamental standardization, the Chinese unit of length varied from village to village and even from trader to trader. After the Bureau was organized, however, the Chinese Government officially adopted the metric system and standardized the "chi'h" (the Chinese unit of length for commercial use) at three to the meter. In 1931 the Bureau undertook to enforce the new standard measures by sending inspectors into the different provinces. Brass meter bars, calibrated with the prototype meter bar, which itself has been calibrated with the master meter bar at the International Bureau of Weights and Measures in Paris, were provided for the local provincial and city governments. Much of this work will have to be reestablished after the war, of course, but great progress has been made in the unification of the weights and measures in unoccupied China.

### Chinese Institute of Engineers Gives Active Help

Many organizations and individuals are working together to make this work on standards a success, but none is more active nor more helpful than the Chinese Institute of Engineers, the national organization of professional engineers. The Institute has an active committee for the promotion of standards, which although not organically connected with the Commission, has close cooperative relations with it. Many of the members of the Commission are also members of the Institute.

The former president of the American Section of the Chinese Institute of Engineers, Mr. Liang-fu Chen, representative and purchasing agent for the National Resource Commission, an organization under the Ministry of Economic Affairs, has secured for us much useful information and advice from the American Standards Association. We are very grateful for the beneficial cooperation rendered to us by the Association.

We are looking forward to a continued intimate cooperation with the American Standards Association and with the national standards organizations of other countries.

# How the Army and Navy Develop Joint Army-Navy Specifications

by Colonel B. L. Neis, QMC

*War Department Chairman, Joint Army-Navy Committee on Specifications*

IN the interest of standardization of military items of similar characteristics used by both the Army and the Navy, Lieutenant General Brehon B. Somervell, Commanding General of the Army Service Forces, and Vice-Admiral Samuel M. Robinson, Chief of Procurement and Materiel of the Navy, by directive on 22 December 1942, established the Joint Army-Navy Committee on Specifications.

The Joint Army-Navy Committee, which is composed of representative officers from the Technical Services of the Army and from the several Bureaus of the Navy, establishes through the issuance of joint specifications common Army and Navy standards for capacity, performance, dimensions, packaging, and other aspects of components of the vast supply programs of the Army and the Navy.

### Cooperation on Standardization in Effect for Years

The introduction of Joint Army-Navy Specifications, through which General Somervell and Admiral Robinson seek to accomplish the saving in materials and manpower that more widespread standardization between the Services should make possible, is well founded on precedent. Cooperative development and joint utilization of such items as bombs, armor, small arms, and other Ordnance equipment has been in effect between the Army and the Navy for a considerable number of years. The requirements of many items of a commercial nature, particularly of raw materials, have in the past been closely coordinated between the Army and the Navy, although generally, in such instances, separate service specifications were issued. Joint specifications, however, in illustrating this coordination, will indicate to industry that the technical requirements of the Army and the Navy are identical and, in addition, will eliminate the problem of variances in testing methods.

The standardization or unification of requirements and characteristics of Army and Navy materiel is of great benefit to the producing industries and, particularly, to those establishments producing similar items for both Services. Through this means, the need for duplicate sets of dies and other production facilities, often made necessary by slight variations in the design of a particular product, is eliminated. Likewise, the manufacturer may carry a smaller total in-process or finished inventory when supplying one unified item, as compared with two dissimilar items.

Among the many advantages of Joint Army-Navy Specifications to the Services themselves may be mentioned interchangeability of issued items or of components. This is of particular significance where joint operations are being conducted as, for instance, in the Southwest Pacific.

Where one procurement is desirable, or where one Service procures for both, a joint specification is an obvious prerequisite. This applies with especial emphasis to many items used alike by the Marine Corps, as a Branch of the Naval establishment, and by the Army. Where each Service maintains an inventory of a unified item of equipment, obviously, neither Service needs to carry as large an inventory as would be the case were the item dissimilar. Through mass production of standardized articles, lower costs are achieved, since normally fewer production facilities and less manpower are required for a given quantity.

With the standardization of materiel through the medium of Joint Army-Navy Specifications, it is possible to pool or complement technical development or research by Army and Navy laboratories or agencies, thus enabling each Service to obtain better equipment more quickly and at lower cost than would otherwise be possible. Furthermore, as Major General R. B. Colton, Chief of the Engineering and Technical Service of the Signal Corps, points out, "Joint Army-Navy Specifications have demonstrated a means of maintaining standardization between the Services in such a changing field as that of electronics and related equipment." Where the Army and the Navy are procuring equipment under a joint specification, it is possible to reduce, materially, the total quantity of inspection tests and tests designed to establish qualified lists of producers. Obviously, one list under a Joint Army-Navy Specification suffices for both Services.

The field of operation for Joint Army-Navy Specifications covers thousands of items peculiar to the military Services. Where items do not possess military characteristics differentiating them from regular commercial or civilian products, they may be covered by the Federal Specifications used jointly by all United States Government departments or agencies.

### Joint Specifications Cover Wide Range

Joint Army-Navy Specifications which have been formalized to date cover such combat items as gun forgings, aircraft armor, ammunition components, military explosives, military photographic equipment, radio tubes, and other electronic components and air field accessories, such as landing mats. There are items of Quartermaster equipment, such as mess trays, meat cans, and textile items, such as socks, hats, dungarees, etc. There are certain raw materials, such as steel, brass, and plastics where there exist distinctive military tests or inspection requirements; and chemicals, such as dichloro-diphenyl-trichloroethane—the Armed Forces' famed insecticide (DDT), which virtually eliminated the plague of typhus in Naples; and dubbing—the

leather preservative, without which a pair of shoes would disintegrate in four or five days in the jungle. There are, likewise, performance specifications covering numerous methods and materials of packaging for overseas shipment, for welding purposes, and other processes. There are included, also, such important nautical items as life preserves, binoculars, cargo nets, and clinometers. Not to overlook the ever important spiritual side, there are also specifications for the Army and Navy hymnal and the Song and Service Book. It may safely be remarked that the procurement of any one of these items in this greatest of war efforts runs into millions of dollars.

Through the medium of Joint Army-Navy Specifications, the Army and the Navy are energetically effecting standardization on the greatest possible amount of needed equipment, achieving thereby interchangeability of parts and conservation of manpower, materials, facilities, and the taxpayer's dollar.

## Vermilya Becomes Director Of Housing Research Foundation

Effective September 13, 1944, Howard P. Vermilya, chairman of the Sectional Committee on Building Code Requirements for Light and Ventilation, A53, resigned from the Federal Housing Administration to join the staff of the John B. Pierce Foundation as Housing Research Director.

Mr. Vermilya is an alternate member of the ASA Standards Council, a member of the Board of Examination, and represents the National Housing Agency on six ASA Sectional Committees.

## ASTM Issues Compilation of Coal and Coke Standards

The September 1944 edition of the compilation of ASTM Standards on Coal and Coke includes four specifications, 21 methods of testing and evaluation, and three definitions. Most of the standards relate to coal, with standard methods covering sampling and analysis, fineness (powdered coal), grindability, etc. For coke, tests include drop shatter, sieve analysis, etc. Specifications include widely used standards covering classification of coals by rank and by grade, sieves for testing purposes, and requirements on gas and coking coals.

As in many materials fields, standard definitions are extremely important, and through the work of ASTM Committee D-5 on Coal and Coke, which sponsors the publication, definitions have been developed on terms relating to coal and coke, gross calorific value and net calorific value of fuels, and commercial varieties of bituminous and sub-bituminous coals. A proposed test not yet officially promulgated covers determination of agglutinating value.

Twelve of the 28 standards have been approved as American Standards by the American Standards Association.

This publication is one of a number of special compilations relating to specific fields including all of the specifications and tests as developed by the ASTM through the work of its various technical committees.

Copies of the 132-page compilation can be obtained from the American Society for Testing Materials, 260 S. Broad Street, Philadelphia 2, Pa., at $1.50 each in heavy paper cover, with reduced price on orders in quantity.

# Uruguayan Standards President Visits United States

CARLOS E. BERTA, president of the Instituto Uruguayo de Normas Técnicas (Uruguayan Standards Institute) in Montevideo, has been spending a couple of months in the United States. During his visit to this country he has kept in close contact with the Inter-American Department of the American Standards Association.

A prominent civil engineer and member of a well known firm of construction engineers in Uruguay, Mr. Berta is on the Board of the Engineering Faculty in the Montevideo University, where he is also professor of mechanics. He came to the United States on an official mission and has been investigating a number of technical matters. The plans and methods of the Massachusetts Institute of Technology and of the Harvard Engineering School will be the subject of his report to his Faculty when he returns to Montevideo towards the middle of October.

The standards institution of Uruguay was organized in 1941. Although small in area and population, Uruguay is well developed industrially and its capital is the seat of the Union of South American Associations of Engineers. Uruguayan standards have been prepared under the guidance of Mr. Berta in connection with a variety of subjects such as bricks, cast-iron pipe, concrete pipe, design of concrete structures, windows and doors with steel frame and wooden frame, tiles for floors, forms for concrete, fuel, highway materials, limes and cements, linseed oil, railroad ties, textiles, valves, etc.

## New ASA Company Members

The following companies have become Company Members of the American Standards Association:

Elastic Stop Nut Corporation of America, Union, N. J.
Maloney Electric Company, St. Louis 20, Mo.
National Cash Register Company, Dayton 9, Ohio
National Surety Corporation, New York, N. Y.

# ASME and ASTM Receive Ordnance Distinguished Service Award

THE Distinguished Service Award for meritorious engineering advisory services was received recently by two member-bodies of the American Standards Association—the American Society of Mechanical Engineers and the American Society for Testing Materials.

On September 6, 1944, Major General L. H. Campbell, Jr., Chief of Ordnance presented the award to the American Society of Mechanical Engineers "in recognition of scientific and engineering achievement."

R. M. Gates, president of the ASME, expressed gratification in his acceptance speech for the extraordinary opportunities engineers have had on both the fighting and production fronts for contribution to the victory now in sight.

The American Society for Testing Materials received the award on August 1, 1944 from Major General L. H. Campbell, Jr., for outstanding contributions made by the Society to Ordnance progress in the war. The award was presented by Major General G. M. Barnes, Chief of Research and Development Service, at a special meeting of the Society on October 12, 1944 in Philadelphia.

ASTM activities undertaken at the request of the Ordnance Department have included cartridge brass, fire-refined copper for wrought products, hardness conversion tables for brass and steel, aluminum casting alloys, method of test for color of Army fuel, and specifications for rubber products.

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# ASTM Acts on New Standards

MANY new specifications and tests for engineering materials and important changes in existing standards were approved on August 28 by the American Society for Testing Materials acting through its Committee on Standards. Recommendations on new standards coming from the Society's standing technical groups have been under development for some time, many for a year or more. Materials involved include steel forgings and castings, gray iron castings, malleable iron flanges, copper, electrical conductors, cement, clay pipe, soil cement mixtures, veneer, plywood, etc., glass insulators, and embrittlement testing of boiler water. In all, 15 new standards were approved for publication as tentative, and revisions in some 30 previously issued specifications.

The Society's work in standardizing specifications and test methods provides for a continuing outflow of material from its some 60 standing technical committees, on which more than 2500 of the country's leading materials authorities are active. Several of the actions reported are intended to supplement material that is to be published in the 1944 *Book of Standards*. This *Book* is being issued one full year ahead of the normal date, because demands resulting from war efforts have depleted the present stock. Publication of the 1944 *Book* is scheduled for December of this year.

### Steel

The four new standards developed by Committee A-1 on Steel cover carbon-steel and alloy-steel blooms, billets and slabs for forgings, and methods of magnetic particle testing and inspection of heavy forgings and commercial steel castings. The so-called billet specifications include considerable material not heretofore included; and also bring up to date the list of chemical compositions covered. An emergency provision goes with the alloy billet specifications, giving a complete list of the N.E. steels.

Two of the steel committee groups have been conducting an intensive study on standardized technique, and on recommendations for magnetic particle testing, and various technologists representing producers and consumers have reached decisions on a number of conflicting points. Eventually the steel committee hopes to issue a monograph on this method of testing, with specification practices applicable to various steel products. Intricacies of forgings, castings, and methods of evaluating defects have prevented the inclusion of any specific acceptance or rejection standards.

Among numerous revisions in steel standards are some affecting the austenitic or stainless alloys in the pipe and tubing field and projected changes in the commercial bar specifications, both hot-rolled and cold-rolled. Eventually revised chemical compositions will be given and data will be included on physical properties and on appropriate uses of the various grades.

### Wrought Iron; Cast Iron

A change in the wrought-iron plate specifications, A42, will permit modifications in yield point value the same as now provided for tensile strength on thick plates. The aim is to have a yield point not less than half the tensile strength.

Committee A-3 on Cast Iron is completing new specifications for material for pressure-containing parts to be used up to 650 F. Tentative specifications for lightweight and thin-sectioned gray iron castings were also approved, replacing the existing standard A 190, and incorporating material that clarifies the intent on physical testing.

During the war, emergency specifications were issued covering the use of malleable iron castings for flanges, pipe fittings, and valve parts. Since they have proved serviceable, they are now being issued as regular ASTM specifications.

### Non-Ferrous Metals

A new method of determining resistivity of copper, and copper and copper alloy, electrical conductors should be of considerable help to the industry because not only has the ASTM not established any previous standards but there are apparently no nationally recognized methods for high conductivity conductors in forms other than wire. The new method which covers appara-

tus, test specimens, and methods to be followed is intended to have an accuracy of 0.5 per cent for material with resistance of 0.00001 ohm or more.

Other actions on non-ferrous metals included the withdrawal of a number of emergency specifications and tests. For example, the use of Braden copper was permitted in the manufacture of numerous products only as an emergency procedure. As this has now been set up as regular practice, many of the emergency provisions are being cancelled.

### Cement; Clay Pipe

Although the existing standard for masonry cement, C 91, is being continued, new tentative specifications also are to be published with important changes. These include an increase in the flow of 100 to 115 per cent instead of the present requirement of 65 to 80 per cent. Compressive strength requirements have been raised to the present value of 400 and 750 psi, respectively, for the 7-day and 28-day strength requirements compared with the values in the standard of 350 to 600 psi. Because in the production of good brick work a mortar possessing high water retentivity is considered desirable, this requirement is now to be greater than 70 per cent instead of the current value of 65 per cent.

Two important recommendations on clay pipe involve a new tentative standard for extra-strength material and revised specifications for standard-strength clay sewer pipe. Extra-strength vitrified clay pipe has been an item of extensive manufacture and use for more than ten years. It is considerably heavier and is intended to sustain much higher working loads than the grades covered in previous standards. The revised specifications for standard-strength pipe provide for increasing the width of joint spaces to improve both the product and the quality of the finished installation, and eliminate the need of cross-references for computing minimum and maximum dimensions. The new specifications will unify the standards of the Society with similar specifications of the United States Government.

### Paint and Petroleum Products

A change in the standard covering wood panels for use in weather tests of paints and varnishes will, when adopted, include redwood panels. Since wood which is used as the test surface has marked bearing on the results, uniform specifications have proved desirable. There will be four general classes: western red cedar, certain types of white pine, southern yellow pine, and redwood.

Committee D-2 on Petroleum Products and Lubricants has developed an emergency alternate provision in ASTM standard D 97 involving tests for cloud and pour points, the emergency making it suitable for expediting evaluation of very low pour points. The new emergency method of test for isopentane, benzene, and their inorganic insolubles in used lubricating oil is urgently needed for use in connection with the CLR engine procedures for the qualification of heavy-duty oils for use by the armed forces. The CLR engine test procedure is now ready for publication in revised form, and the Ordnance Department has requested its immediate release.

### Soil-Cement Mixtures

A new Test for Determining Cement Content of Soil-Cement Mixtures, D 806, was developed jointly by Committees D-4 on Road and Paving Materials and D-18 on Soils for Engineering Purposes. The method covers determination of the cement content of mixtures that have been sampled from a project under construction or after completion, determination being made chemically. Increasing use of these methods of construction make this new test method pertinent.

### Tests for Veneer Plywood and Wood-Base Materials

The use of plywood and related materials has mushroomed during the war emergency to huge proportions. Studies of various methods of evaluating essential properties have been under way for a considerable time, notably in the U.S. Forest Products Laboratory and the new methods issued by the ASTM covering standardized procedures, D 805, are based largely on conclusions from the Laboratory's work. The methods cover the following properties: Compression; static bending; tension; panel shear; plate shear; toughness; hardness; and moisture content and specific gravity.

### Glass Insulators

Committee D-9 on Electrical Insulating Materials has developed a series of specifications covering various types of glass insulators, namely, Standard Tests for Pin-Type Lime Glass Insulators, D 468; Tentative Methods of Testing Glass Spool Insulators. D 550; and Tentative Specifications for Low and Medium-Voltage Pin-Type Lime Glass Insulators, D 730. The new emergency specifications supplement these standards by covering communication and signal pin-type materials. These specifications were developed in cooperation with the Signal Corps, and U. S. Army Specifications No. 71-4953 issued on August 7 are in accord with the recommendations. Requirements given cover the material thermal shock, electrical characteristics, dimensions, etc. There is considerable detail on packaging and methods of testing.

### Embrittlement Testing of Boiler Water

These new methods for embrittlement testing of boiler water, D 807, culminate an extensive investigation carried on by the Joint Research Committee on Boiler Feedwater Studies over a period of some ten years. Operators of boiler plants have experienced cracking of boiler sheets and boiler tube ends, etc., for several decades and there has been pronounced interest in this whole activity. In much of the work the United States Bureau of Mines took an active part through its research stations and technologists, and the new test uses the embrittlement detector which was developed by two of its investigators, W. C. Schroeder and A. A. Berk. Nonexclusive licenses for the manufacture and distribution are given at the discretion of the Secretary, U. S. Department of the Interior.

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## Bailey Named President By ASME

Alex D. Bailey, vice-president, Commonwealth Edison Company, Chicago, has been elected president of the American Society of Mechanical Engineers, according to a recent announcement by the Society.

The American Society of Mechanical Engineers is one of the co-founders and original organizers of the American Standards Association and has been an active Member-Body of the ASA since its organization in 1919.

# Packaging Manuals for War Use May Influence Peacetime Standards

Review by
Albert W. Luhrs[1]

BRITISH STANDARD PACKAGING CODE. Prepared by Committees of the Packaging Industry Committee, British Standards Institution, London, December 1943. 427 pages. B.S.1133: 1943. $1.85.

**British work on new standard is closely related to American work; coordinated program here is suggested**

THIS war has brought about a tremendously increased realization of the importance of proper packing. Many men have now learned its fundamentals and, as the attendance records set at the various packaging shows and conferences clearly indicate, they are keenly interested in acquiring a greater and more complete knowledge of this important subject.

The new British Standard Packaging Code, recently received in this country, has aroused much interest and favorable comment. This publication may be described as an enlarged version of the well-known American manual published some eighteen months ago by the Container Coordinating Committee, entitled Army-Navy General Specification for Packaging and Packing for Overseas Shipment. In the early days of our participation in the war, shipments abroad of war supplies and materiel suffered considerably from the comparatively scanty attention paid to packing during the pre-war years. One of the steps which was taken in the rush to remedy the situation was the preparation of the American manual which brought into one volume of 200 pages the chief essentials of proper overseas packing.

The new British Code, which is stated by its authors to be patterned after the Container Coordinating Committee publication, fills the need which existed in Britain for such a manual. In both countries time has not been available for the preparation of detailed packing specifications for countless items of war materiel, and it is a great convenience to refer the suppliers of such products to the published manual for packing and packaging instructions. Further, the lack of trained packaging personnel makes such a guide of inestimable value to procurement officers.

Up until the last year or so there existed many undesirable complications resulting from a lack of coordination in the packing specifications of the various services and government agencies. In the United States in the early days of war, contractors for gasoline engines, for example, were required to pack them one way for the Signal Corps, another way for the Engineers, and in still a third way for the Navy. Similarly with thousands of other items common to the various services. In Great Britain the same situation was not unusual.

The new British Code, as does the American manual, takes a long step toward the elimination of such hindrances to rapid production in contractors' plants, and at the same time it simplifies the container and packing material manufacturers' problems by standardizing such things as container styles, material characteristics, nomenclature, weight limitations, etc.

The British Standard Packaging Code in its opening chapters outlines in some detail the main hazards of overseas shipments and the performance level required of packaging for war supplies. It goes on to delineate the factors influencing the choice of type of container, and in subsequent sections it gives the specifications for the construction of satisfactory bales, wooden boxes and crates, metal cans, fibre boxes and drums, wrapping papers, and other necessary packaging materials as, for instance, cordage, tensional strapping, and sealing tapes. A final section describes various standard testing methods for container materials.

[1]President, Container Testing Laboratories, Inc.

The Code was prepared by the Committees of the Packaging Industry Committee of the British Standards Institution at the request of the Anglo-American Packing Committee of the Ministry of Production. More than thirty trade associations assisted in the work. These plus the staff of the Forest Products Research Laboratory and the packaging authorities of the Admiralty, War Office, Air Ministry, Ministry of Food, Ministry of Supply, Ministry of War Transport, and other agencies have pooled their combined container knowledge into this outstanding work.

Despite its 427 pages of factual information, the Code is not yet entirely completed, as the section on glass containers is still in preparation. Rather than delay publication awaiting the completion of this section, the Code has been published as is, with the other section to appear at a later date.

Few people not in the container industry are aware of the magnitude or importance of packing and packaging. It is estimated that in a single year approximately seven billion dollars are spent in the United States for boxes, barrels, drums, paper, glass and tin containers, and other packing and packaging materials. In view of this it is not surprising that an increasing interest is developing in the benefits to be obtained through standardization in this huge industry. There is little doubt but that the British Code and the American manual will be used by exporters as a peacetime packing reference.

Before the war a number of technical and commercial groups became actively interested in establishing standards for containers. These included technical organizations such as the American Society for Testing Materials, Technical Association of the Pulp and Paper Industry, and special committees of the various transportation agencies. Other committees representing groups of one or more of the container and packaging material manufacturers have also been functioning.

During the war period the preparation of standards has continued, but at a tremendously accelerated pace. Not only have the British Code and the American manual been published but many other less inclusive but important specifications have also been issued. Of the hundreds of such might be mentioned the Joint Army-Navy Specification JAN-P-108 on fibreboard boxes, Ordnance Department Specifications for Packaging Ordnance General Supplies, and the Navy Handbook on Packaging, Packing and Marking of Clothing, Small Stores, and Textiles.

Organizations which previously had little or nothing to do with container specifications have recently felt it advisable to become active in that connection. One such, as an example, is the Society of Automotive Engineers. Others are the commercial air transport companies and many of the government agencies such as the War Production Board, War Foods Administration, Lend Lease, and United Nations Relief and Rehabilitation Administration (UNRRA).

With packing specifications emanating from so many different sources, and with comparatively little coordination existing between the groups, an effort on the part of some outstanding organization to tie in the activities of all of the many groups working on container standardization would appear to be highly desirable. The American Standards Association should be especially well suited for such an undertaking.

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# Industrialization and Standardization Trends in Latin America

by C. T. Brady, Jr.

*Field Representative, American Standards Association*

THE war has given an extraordinary impulse to two processes which were already gaining ground in most of Latin America. The inability to import manufactured goods has prompted local manufacture on an ever-increasing scale. Concurrent with this is the drive of nationalistic ideas which every year become wider spread and more insistent.

Many earlier local manufacturing enterprises had already been fostered by high customs duties, while numerous new ventures are obtaining protection from the authorities on the ground that national welfare or defense is promoted when such industries are firmly established within the borders of the country. At present, and with the cessation of import competition, still others of the newer industries are operating successfully without any duty protection at all. After the war some of them, no doubt, will find it so difficult to compete with imports that they will have to go out of existence, but some will receive protection and will therefore have to be reckoned with in the future.

Favorable trade balances have piled up in various countries, and several have accumulated really enormous holdings of foreign exchange, mainly because the exporting countries are now shipping so little to them. These holdings will undoubtedly be used to buy all sorts of high quality products as soon as they are available, and it is very likely that machinery will figure prominently in the purchases. Hence, local manufacturing practice should improve with the new and more efficient machinery.

It is to be presumed that standardization performed by the local bodies will more and more concern itself with local manufacture.

It would be a great mistake, however, to neglect or ignore the standardization going on at the present time, even though our own export trade be temporarily restricted and new investments of capital abroad are postponed. When the war terminates there will certainly have accumulated all over the United States great stocks of manufactured goods of every sort which were orig-

Modern construction in a growing industrial city — Medellín, Colombia

inally intended for war purposes, but which would be gladly received in Latin America. Clearly then, the greater the prospective purchasers' familiarity with United States standards and industrial practice, the greater will be the likelihood of mutually satisfactory relations in the future. Nor must it be overlooked that the degree of industrialization achieved in different countries is very uneven, so that importation of certain manufactured articles will be unaffected by it in some of the countries and only partially affected in others.

### What Interests Latin America Now

In practically every testing laboratory that you visit in Latin America, you observe that tests of cement and concrete, and of soils and road building materials are engaging the attention of a great many engineers and researchers. In many of the principal cities there is also much interest in building code requirements both the type which includes zoning according to use, heights, and surface areas, etc, as well as that which includes requirements for materials, details, and accessories of buildings.

So general is the interest in these two particular fields of engineering, namely road-building and building construction, that they suggest a ready means of cooperation which would be most welcome. If booklets of representative standards of these two classes could be prepared, including illustrations and explanatory notes, the immediate usefulness of the material would insure their wide acceptance. Other fields would also lend themselves to the same treatment.

Another means of cooperation is perhaps more ambitious but none the less promising. The engineering school libraries in the northern part of Latin America contain numerous new American technical books and magazines. While not so many are seen in the southern part—partly due to censorship restrictions, their high cost, etc—they are nevertheless very much in demand. If we should make up (in this case, in translation) a comprehensive selection of standards covering the entire field of engineering as taught in up-to-date American engineering schools, it is probable that great numbers of students would be most anxious to acquire it, and that it would assist them in their profession.

The compilation and translation of all these selections would necessitate careful consideration by competent and experienced men, and it would be essential to dress the publications in the best modern typography. The standard of printing that now prevails in the publishing centers of Latin America is so high that anything but the finest quality would suffer by comparison. Considerable funds would therefore be required at the beginning, but it is possible that sales of the publications might ultimately cover a good share of the cost. Possibly some commercial publisher would be willing to assume part of the risk.

### ASA Field Offices Furnish Standards Information

The opening of field offices and naming of representatives to the existing and projected standardizing bodies has everywhere been warmly appreciated, both by those bodies and by our fellow citizens all over Latin America. We have collaborated by constructively criticizing many draft standards submitted to us, and have frequently been called upon for preliminary information and precedents. The extension and adequate staffing and equipping of our field offices is, then, of prime importance to the successful continuation of our work.

Although we have given out very little publicity about the service our existing field offices could render the public, we have had a constant stream of visitors and inquirers for this or that piece of pertinent information. We are constantly being asked to furnish a copy of some standard published by the American Standards Association, the American Society for Testing Materials, the American Institute of Electrical Engineers, the Society of Automotive Engineers, and others. Thus, it would be most advantageous if each field office were provided with as complete a library as possible of every sort of standard used in the United States.

These are but a few of the forms in which our inter-American work has demonstrated its usefulness. That in the midst of the war effective international cooperation of this sort has been so welcome is encouraging to all who have shared in it.

# Reck Leaves to Serve China as Standards Adviser

Dickson Reck, formerly head of the Standards Division of the OPA, has left for China to serve as standards adviser to the Chinese Government. Mr. Reck was appointed by the State Department, and expects to work closely with the new Chinese Standards Commission (poo), the National Resources Commission of the Chinese Government, and the Chinese Institute of Engineers.

Standards have already been recognized as having an important place in the plans for industrial development of China. Donald Nelson, on his visit to China recently, carried 25 pounds of standards for use by the Chinese Government; and Mr. Reck has spent several months collecting standards material which he is taking with him, largely on microfilms.

In the picture above, Mr. Reck (left) is shown with Dr. P. G. Agnew, secretary of the American Standards Association, during one of his many conferences at the ASA offices before his departure for China.

## ASTM Reports Revisions In Malleable Iron Standards

According to information received by the American Standards Association from the American Society for Testing Materials, revisions in the following standards are being considered:

American Standard Specifications for Malleable Iron Castings (ASTM A 47-33; ASA G48. 1-1942).

American Standard Specifications for Cupola Malleable Iron (ASTM A 197-39; ASA G49.1-1942).

Revisions under consideration in the standards listed above consist of a proposal for an alternate tension test specimen which may be adapted to individual testing machines, thus making possible the testing of malleable specimens and steel specimens without change in testing machine holders. Further study of data relating to proposed specifications for welding and a clarification of yield point definitions in a specification for malleable-iron castings are being considered, also.

Information on the adoption of the tentative revisions will be available from the ASTM when the Society's Committee A-7 on Malleable-Iron Castings takes final action on the proposed revisions.

## ASA Committee Studies Relations with Member-Bodies

An Exploratory Committee of Staff Executives has been appointed by the American Standards Association to consider the organization of a standing committee of staff executives of Member-Bodies for the purpose of bringing these organizations into closer relationship with the Association.

Members of the Exploratory Committee of Staff Executives are:

C. L. Warwick, secretary-treasurer, American Society for Testing Materials, *Chairman*
Dr. R. P. Anderson, secretary, Division of Refining, American Petroleum Institute
Percy Bugbee, general manager, National Fire Protection Association
W. K. Donald, managing director, National Electrical Manufacturers Association
C. B. LePage, assistant secretary, Boiler Code Committee, American Society of Mechanical Engineers
Herman Lind, president, American Institute of Bolt, Nut and Rivet Manufacturers
T. E. Velfort, manager, Copper and Brass Research Association
John A. C. Warner, secretary and general manager, Society of Automotive Engineers

# OPA Reorganizes Standards Set-Up

THE Standards Division of the Office of Price Administration has been dissolved as a separate unit and members of its staff have been assigned to work on standards in the various commodity divisions of the OPA. Edward J. Hennessy, formerly head of the Food and Drug Section of the Standards Division, has been named Acting Standards Officer, and will be on the staff of James F. Brownlee, Deputy Administrator for Price. He will be available for general consultation on standards problems and will also handle standards work in the Food Price Division. Before going to OPA in 1941 as head of the Food and Drug Section of the Standards Division, Mr. Hennessy was connected with the technological division of Erwin Wasey Company, Ltd., Chicago, for two years and prior to that worked for six years in the North Dakota State Laboratories.

Clifford E. Granger, rubber specialist, and Malcolm F. Pratt, chemical specialist, have been transferred to the Industrial Manufacturing Price Division, where they will work on standards problems.

Thomas N. White, knit goods expert, and Mildred G. Arnold, specialist in consumer durable goods and household appliances, have been transferred to the Consumer Goods Division.

The Standards Division formerly operated as a separate unit in developing policies, providing technical advice, and performing liaison on standards problems with other Government agencies, with consumer advisory groups, with the National Bureau of Standards, and with the American Standards Association.

Informal reports indicate that the new arrangement is working extremely well, and that it gives the standards work a more direct and authoritative contact with the price executives than did the former arrangement.

# WPB Conservation Division To Be Discontinued October 31

THE Conservation Division of the War Production Board, in which the WPB work on standards and specifications, simplification, and general conservation has been centered, is being discontinued as of October 31. This action is being taken at the recommendation of Howard Coonley, Director of the Division, who made the suggestion because in his opinion the diminishing amount of work remaining to be done in connection with conservation can at this stage be handled satisfactorily by the other divisions of WPB. Acting Chairman J. A. Krug of the WPB accepted Mr. Coonley's recommendation and issued the order abolishing the Division.

In order to carry on unfinished business of the Division, however, a Conservation Officer, J. H. Hansen, has been assigned by Mr. Krug to the Office of the Operations Vice-chairman. Mr. Hansen will have charge of the records and personnel needed to carry on the work connected with the contract with the American Standards Association; work on Federal Specifications; conservation projects on tin and cadmium; and the U. S. Conservation Coordinating Committee.

In addition to these projects under the supervision of the Conservation Officer, the National Emergency Steel Specifications are being transferred to the Steel Division; the program on conservation in construction to the Facilities Bureau; the paper conservation campaign to the Forest Products Bureau; the sole leather treating program to the Textile, Clothing, and Leather Bureau; the container conservation program to the Containers Division; and the direction of the Combined Conservation Committee Subcommittee of the Combined Production and Resources Board and the Combined Raw Materials Board to the Vice-chairman for International Supply.

### Conservation Opened Reservoir of Resources

Commenting on the accomplishments of the Conservation Division, Mr. Krug said that beginning in 1940 conservation opened a huge reservoir of resources of all kinds from which to draw the mounting requirements for militay equipment and material.

"Through the techniques of conservation—specifications, substitutions, simplification, and standardization —the Conservation Division was able to save large quantities of critical materials, which had the effect of expanding our available resources by a substantial amount," he declared.

Mr. Krug pointed to the following as outstanding accomplishments of the Conservation Division:

"By means of writing Federal Specifications, Emergency Alternate Specifications, and War Amendments to the number of over 800, immense quantities of critical materials were saved and transferred to war purposes.

"By substituting materials that were in plentiful demand for critical materials, the production of many more munitions was made possible.

"By simplifying types, sizes, and varieties of articles, the capacity of production was much increased and critical materials were saved.

"By standardizing measurements and equipment, material was saved, production was increased, and interchangeability of implements of war was greatly promoted.

"Special programs such as the National Emergency Steel Specifications projected to increase production within existing facilities; the design guides and directives to control strategic materials used in construction; and the Die Casting program to quicken production as well as to conserve copper and zinc have all aided materially in getting supplies to the Armed Services."

"It is impossible to estimate the tonnage of critical material, manhours, transportation capacity, etc., that have been saved by the techniques of the Conservation Division, but it is safe to say that the war has been shortened an appreciable length of time by their application," Mr. Krug stated.

"Likewise, other agencies, such as the Army and Navy, were kept in close touch with WPB policies on materials and products by the establishment of liaison officers from the Conservation Division.

"The consultants of the Conservation Division were in reality the technical advisory agency of the WPB."

"A very large factor in the accomplishments of this Division has been the remarkable work of its Director, Mr. Coonley," Mr. Krug declared.

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## Metal Lath Simplification Eliminates 216 Items

Of considerable interest to the various branches of the construction field is the fact that metal lath and metal plastering accessories are greatly simplified and standardized in a revision of the Simplified Practice Recommendation for these products promulgated by the Division of Simplified Practice, National Bureau of Standards, U. S. Department of Commerce, Washington.

This latest development is a further revision of the draft originally issued on July 1, 1924, as a result of a general conference of representatives of manufacturers, distributors, users, and others interested, in December 1922 under the Simplified Practice Procedure of the National Bureau of Standards.

In commenting on the development, Arthur J. Tuscany, Commissioner, Metal Lath Manufacturers Association, states:

"All elements in the construction industry can receive assistance immediately in their important postwar planning, and additional help when construction work is executed, from the progress registered through this Simplification Recommendation. The architect, all units in the distribution channel, contractors, and owners should gain from this valuable contribution to an active, postwar construction era."

The latest revision is identified as Simplified Practice Recommendation R3-44 and is titled "Metal Lath (Expanded and Sheet) and Metal Plastering Accessories."

Copies may be purchased from the Superintendent of Documents, Washington 25,, D. C. at 5 cents each.

# Committee Asks Comments On Proposed Standards for Microfilm and Microfilm Readers

by Oscar W. Richards[1]

*Chairman, Subcommittee 7 on Printing and Projection Equipment, ASA Sectional Committee on Standardization in the Field of Photography*

MICROFILMING has greatly increased as a result of the war, even despite the fact that its growth had been exceptionally healthy during the preceding years. The requirements of the war have meant that all kinds of documents have been copied to save storage space, to permit safe storage, and to share information quickly with others. The inevitable losses of this war have been ameliorated because many of the precious documents of civilization have been copied on microfilm and the copies sent for safekeeping far from the theaters of war.

In addition to these special wartime uses, microfilm has already gained recognition in many ways which are valuable in peacetime. For example, many libraries will furnish at a nominal cost copies on film of material that otherwise they would be unwilling to have used outside of their own buildings. The experience of the Army Medical Library suggests that sending films may be less expensive than shipping the volumes and, in addition, other users will not be inconvenienced by finding material away on loan. There are many commercial uses for microfilm, from copying checks for records, to recording inactive material so that the storage space needed may be reduced. A catalog of the many uses would now fill a large book.

In this rapid growth, many sizes and kinds of film have been used and there is much lack of agreement among producers, users, and manufacturers of equipment. Knowing this, one may ask why attempt standardization now? Our reply is that we believe it is more important to begin to standardize early as a guide toward sound usage. For this reason, we are offering two proposed standards for trial and criticism, which include current practice and focus attention on controversial issues.

### Proposed American Standard Practice for Microfilms, Z38.7.8—

A microfilm is defined as a transparent flexible material carrying microphotographs for optical projection or viewing, other than cinematography. A microphotograph is a reduced-size photographic documentary reproduction, generally too small to be read by the unaided eye. The photographs are made usually for record purposes from documentary material, such as texts or drawings, or from physical objects. The latter could include coins, artistic creations, models, etc. Microfilms must be made on safety stock as defined by subcommittee 3 in American Standard Definition of Safety Photographic Film, Z38.3.1-1943, and, when intended for permanent preservation, should meet the requirements for permanent record film contained in Miscellaneous Publication M158 of the National Bureau of Standards.

Both 35- and 16-mm film are used, either perforated or unperforated. Sizes are given for the width of the image on the film for these materials. No standards are proposed for length, because it is customary to set the length to fit the material being copied. For library use a separation of at least 0.5 mm (0.02 inch) is advised. The separation should not greatly exceed this if film and storage space are to be conserved. To achieve uniformity, a format is suggested for single- and double-page material of different sizes. A leader and trailer of 18 inches length should be provided. The first frame should be the title or a condensed version of it in letters of at least 2 mm (0.08 inch) high so that they can be read by the unaided eye, and the final frame should be marked "end". The leader and title requirements need not be followed on short strips, but they are very helpful on long films, especially when many people are to use them. Standard dimensions, conforming to current practice, are given for the reels.

### Proposed American Standard Specifications for Microfilm Readers, Z38.7.9—

A microfilm reader is defined as a projection device for showing a readable image of a microfilm, usually on a self-contained screen.

Dimensions of film width and width of film-gate aperture are given to aid the manufacturer of such equipment. There is a real question whether it is practical for ordinary readers to cover the full width of the picture on unperforated film. When the full width is not covered, there should be some provision for moving the film laterally so that such large copy may be read. If the large aperture is not often needed, the image will be brighter by confining the available illumination to the small apertures. For library use the film holder should be made so that it can be rotated in order that the various positions of the image mentioned above may be seen right side up on the screen. Means should be provided to release the pressure on the image area during movement of the film and to hold it flat during use.

The lens should be good enough that no refocusing is required to read a line of print from one side to the opposite side, and it should be free from obvious color or distortion. The lighting should be shielded so as not to distract the reader. The ratio of corner-to-center illumination should be not less than 65 percent and that on two adjacent areas should not vary by more than

[1] Research Biologist, Spencer Lens Company, Buffalo, N. Y.

20 percent. The temperature of the film should not exceed 75 C (167 F). Methods for measuring illumination and temperature are specified.

If reels are accommodated, the standard-sized reels, mentioned above, are to be provided for. If sprockets and perforated film are used, they should be in accordance with the standard motion picture practice.

The latter requirements may be modified in the final draft of this proposed standard, as such rigid specifications are not essential for microfilm which is moved slowly through the machine, and the strict framing required for motion pictures is neither necessary nor is it used.

There has been some question as to whether so high a standard of illumination should be specified. Magnifications of 12× are proposed tentatively for 35-mm film and 22× for 16-mm film. Are these suitable? Should any values be given? Should a minimum density difference between the clear and the dark parts of the microfilms be included? What should this be?

The committee would welcome comment on these questions. Another controversial issue on which the committee will be glad to have comments has to do with what specifications should be included on the optical quality of the lens.

The microfilm readers range from the small, relatively inexpensive types for a scholar or other occasional user of films, to large units for commercial firms and libraries where they may be used continuously every day. In addition to the standard readers, many special microfilm readers will undoubtedly be required for special uses. These proposed standards will not apply to them, although they will offer guidance to the designer.

Early next year the committee will reconsider these proposed standards and we hope that the readers of this article and users of microfilms will send their comments and criticisms so that we may include them. Such cooperation will further the effective use of microfilm. After final approval the standards will be revised from time to time as may be desirable. Any information bearing on these proposed standards should be sent to the American Standards Association or to the writer and will receive careful consideration.

A microfilm reader for which proposed specifications have just been completed.

## Correction in War Standard On Metallic Arsenic

Announcement has been made of the following correction in American War Standard Allowable Concentration of Metallic Arsenic and Arsenic Trioxide, Z37.9-1943.

Page 5, Section 2.2 Physical-Chemical Properties, fourth line, should read:

| | Metallic Arsenic | Arsenic Trioxide |
|---|---|---|
| Vapor pressure of 1 atm..... | 615 C | 476.5 C |

Subcommittee 7 on Printing and Projection Equipment of the Sectional Committee on Standardization in the Field of Photography, Z38, prepared the two proposed standards on microfilm and microfilm readers. Members of this subcommittee are:

O. W. Richards, Spencer Lens Company, Buffalo, N. Y., *Chairman.*
F. M. Bishop, Eastman Kodak Company, Rochester, N. Y.
C. W. Gartlein, Cornell University, Ithaca, N. Y.
U. O. Hutton, Cambridge Instrument Company, Inc, Ossining, N. Y.
O. M. Miller, American Geographical Society, New York, N. Y.
W. R. Patton, Optical Division, Argus, Inc., Ann Arbor, Michigan.
Lieut W. A. Pfaff, Signal Corps Photographic Center, Long Island City, N. Y.
Lieut Boyce Nemec, Chief, Equipment Specifications Branch, Signal Corps Photographic Center, Long Island City, N. Y. (*Alternate*)
J. K. Polhemus, Ansco Camera Works, Binghamton, N. Y.
W. B. Rayton, Scientific Bureau, Bausch & Lomb Optical Company, Rochester, N. Y.
Comdr O. S. Reading, U. S. Coast and Geodetic Survey, Washington, D. C.
V. D. Tate, Division of Photographic Archives and Research, The National Archives, Washington, D. C.
V. E. Whitman, Folmer Graflex Corp, Rochester, N. Y.

Copies of the Proposed American Standard Practice for Microfilms, Z38.7.8, and of the Proposed American Standard Specifications for Microfilm Readers, Z38.7.9, can be obtained from the American Standards Association at 10 cents each.

# ASA Post-War Program Studied By Standards Council Committee

IN accordance with recent recommendations of the Standards Council Planning Committee, a Committee of Program of Work has been formed to review present coverage of the ASA program in essential fields and check other opportunities for post-war development.

The work of the ASA is so extensive that long ago it became necessary to organize correlating committees as a means of cordinating the activities in certain broad fields, such as the electrical, mining, mechanical, and safety fields. These correlating committees constitute one of the chief means which the ASA has of keeping its work orderly and systematic, and of preventing duplication of work and conflicting provisions among the final standards.

As a part of its post-war planning, the ASA has asked each of its planning committees to re-survey its fields to see what revisions need to be made and what gaps filled in, in order to make its work as a whole as useful as possible.

But a great deal of ASA work does not fall within the field of any correlating committee. This is where the new Committee on Program of Work will operate. Its job is to do for the technical activities as a whole what each correlating committee is being asked to do for its own field. In other words, it will survey the whole field to see what parts need to be revised or reorganized, and what gaps need to be filled in, in order to make ASA's work as a whole as useful as the resources available will permit.

The new committee is to be a continuing one. Its members are shown in the box on this page.

Members of the Committee on the Program of Work are as follows:

Dr. E. C. Crittenden, Chief, Electrical Division, National Bureau of Standards, *Chairman*
L. F. Adams, (Chairman, Board of Examination), Assistant to Vice-president, General Electric Company
Daniel Harrington, (Chairman, Mining Standardization Correlating Committee), Chief of Health & Safety, Bureau of Mines, U. S. Department of Interior
Charles Rufus Harte, (Chairman, Electrical Standards Committee), The Connecticut Company
Alfred Iddles, (Chairman, Mechanical Standards Committee, Application Engineer, Babcock & Wilcox Company
W. R. Smith, (Chairman, Safety Code Correlating Committee), Safety Engineer, Public Service Electric & Gas Company
George N. Thompson, (Chairman, Building Code Correlating Committee), National Bureau of Standards
Irwin D. Wolf, (Chairman, Advisory Committee on Ultimate Consumer Goods), Vice-president, Kaufman Department Stores
F. K. Glynn, (Member of Standards Council), American Telegraph & Telephone Company
F. O. Hoagland, (Member of Standards Council), Master Mechanic, Pratt & Whitney-Niles-Bement-Pond, Hartford, Conn.
J. R. Townsend, (Member of Standards Council), Materials Standards Engineer, Bell Telephone Laboratories, Inc.
Lieut. Commander R. L. DeGroff, U. S. Navy Department
Colonel B. L. Neis, U. S. War Department
Willis MacLeod, (WPB Representative), Special Assistant to Director, Office of Civilian Requirements
Arthur S. Johnson, (Member of Standards Council), American Mutual Liability Insurance Company

## Building Survey Emphasizes Role of Building Codes

The Twentieth Century Fund has just published a comprehensive survey of the housebuilding field, entitled *American Housing: Problems and Prospects.* This investigation was aimed at providing adequate housing for a mass market, and removing obstacles to housing progress that inhibit the great job-creating possibilities of postwar building.

In addition to the factual section of the report, there is a program for action, prepared by the Housing Committee of the Fund. This program urges reforms in methods of building, financing and marketing, and especially emphasizes the future role of suitable building codes in opening up the potential market. Three main problems are suggested as being basic in the production of a proper building code. The first is the necessity of reconciling ideal provisions with practical economic considerations. A code with elaborate requirements that bring costs to a point where only a few can pay for new housing defeats the purpose of public regulation of building. A second code feature the Committee recommends is the wording of requirements so as not to exclude sound new building methods and materials. Performance requirements, not specifications for the parts of a building, should be set up—for example, not the thickness and materials of a wall, but the wind load and live load it must provide for, the duration of fire it must resist, and so on. The third necessity is that of providing for special local circumstances without impeding the industry on a wider basis. Californian construction requires special bracing for earthquakes, buildings in Florida must satisfy hurricane protection requirements, and in northern cities the possibility of heavy snow loads must be considered.

The Committee recommends that currently enforced building codes be revised to include these features. The report is available from the Twentieth Century Fund, 330 West 42nd Street, New York, New York, at $3 a copy.

## OPA Takes Steps To Stop Butter Upgrading

OPA restrictions on the upgrading of butter (selling a lower grade of butter at the price of a higher grade) through grade checking will save American consumers approximately $15,000,000 annually, it is estimated. Butter is graded with an 89-93 score by tests for butterfat content, odor, and taste.

Recent surveys show that 90 percent of the total amount of butter produced was being sold as 93 score. Normally, 93-score butter comprises around 10 percent of the total supply, OPA estimates. According to a statement of an OPA official "there just isn't that much 93 score butter being produced."

# United Nations Standards Committee Opens New York Office

MARKING the first major step in resumption of international standardization work halted by the war, the newly organized United Nations Standards Coordinating Committee opened a New York office on October 16.

In order to carry out its work effectively, the Committee is maintaining two offices—one in London, at the base of European operations—and one in New York, since so many of the war and relief supplies come from this side of the Atlantic. The London office is already operating under the direction of Charles C. leMaistre CBE, former Director of the British Standards Institution. The New York office, which is located at 70 East Forty-fifth Street, is in charge of Herbert J. Wollner of Washington, D. C., who has had wide experience in standardization work in national and international fields. Each office will work with a specified group of countries, and each will keep the other office in close touch with its activities.

### UNSCC to Spur Cooperation

The purpose of this new United Nations Standards Committee is to "spark plug" cooperation between the allied belligerent countries in standardization matters as an aid to production and use of war supplies and equipment and also in rehabilitation work. It will seek to secure the maximum possible coordination of standards necessary for the war effort and for the immediate post-war period.

The Committee is set up to operate for a period of two years, with a review of the need for the organization at the end of that time. Participation in the work during that time will be open to the national standardizing bodies of such of the United Nations as may desire to participate in and support the work.

Planning for this new international Committee has been done at a series of international meetings in Washington, New York, Toronto, and London. The most recent took place in London on August 29 and September 8. These meetings were attended by delegates from Australia, Canada, Great Britain, New Zealand, and the United States, and by a Russian observer. South Africa, while not able to attend the meetings in London, has already expressed her intention of joining the United Nations Standards Committee and helping support it. It is expected that Brazil, China, and Russia will join. An invitation has also been issued to Mexico.

Herbert J. Wollner

Howard Coonley, Director, Conservation Division of the WPB, has been appointed as the official representative of the American Standards Association on the United Nations Standards Coordinating Committee. P. G. Agnew, secretary of the American Standards Association, has been named a member of the Executive Committee of the UNSCC, and as Mr. Coonley's alternate on the Committee itself. Cyril Ainsworth, assistant secretary of the ASA, is Mr. Agnew's alternate on the Executive Committee.

### Jobs Already Scheduled

Among the first jobs that the new United Nations Standards Committee has been requested to undertake are: (1) work on building materials and equipment, requested by the Industrial Rehabilitation Division of the UNRRA; (2) standardization of flat-bottom rails needed to rebuild the heavily damaged transportation systems of France and the other occupied countries, suggested by the Inter-Allied Transportation Committee; (3) a project for the suppression of radio interference, suggested by the British Standards Institution.

## Subjects Suggested for Work by United Nations Standards Committee

It is expected that the United Nations Standards Coordinating Committee will undertake the following work which already has been suggested to it:

1. Flat-bottom rails
2. Food containers
3. Radio interference suppression
4. Airfield lighting
5. Terms used in plastics industry
6. Shellac
7. Standardization in connection with gas cylinders
8. Heat-treatment terms
9. Building materials and equipment

Mr. Wollner brings to his new job a wide experience in standardization work in this country and abroad. He is leaving a position as head of the various laboratories operated by the Treasury department and as special advisor to the Secretary of the Treasury. A chemist with industrial engineering background, he was for a number of years associated with the Allied Chemical and Dye Corporation of New York. He served as American representative to the League of Nations' Opium Advisory Committee at Geneva in 1935, at which time he developed the standards and test methods for assaying opium and coca leaf that were adopted internationally. He has also done a number of industrial surveys and other special jobs for the government both in this country and abroad. He spent three years setting up for the U. S. Treasury Department its standard methods of sampling and testing raw wool.

## Canadian and U. S. Mission Meets with British

A JOINT mission from Canada and the United States, the first to be sent to the United Kingdom by the Combined Production and Resources Board, has just returned from London where conferences were held on coordination of standards used in British and American manufacturing practice.

Unification of the British and American screw thread systems was the main subject under discussion. The existence of these two systems has caused considerable difficulty in the production of items of equipment for common use in the prosecution of the war. In addition to the main problem of unification, discussions were held on methods of bringing about agreement between British and American Standards on specific types of threads. These were:

Truncated Whitworth threads
Acme threads
Pipe threads
Screw threads for compressed-gas cylinders
Buttress threads
High-duty studs for non-ferrous castings
Instrument threads:
  Fastening screws
  Bearing adjustment and translating screws
  Optical mounting threads (tubes and cells)

Another subject of great importance considered by the British, American, and Canadian representatives was the problem of fits between cylindrical parts.

Canadian and United States members of the mission were:

Elmer J. Bryant, chairman of American Standards Association War Committee on Screw Threads; Greenfield Tap & Die Corporation, Greenfield, Mass., *Chairman.*

James G. Morrow, chairman of Canadian Engineering Standards Association; Technical Advisor to Steel Controller Department of Munitions and Supply; Metallurgical Engineer, The Steel Company of Canada, Ltd. Hamilton, Ontario, *Vice-Chairman.*

Cyril Ainsworth, Assistant Secretary, American Standards Association.

Henry W. Bearce, chief of Division of Weights and Measures, National Bureau of Standards.

Paul J. Des Jardins, chief engineer, Small Tools Department, Pratt & Whitney Division, Niles Bement-Pond Company, West Hartford, Conn.

Harry B. Hambleton, Colonel, chief of Inspection Branch, chief of Engineering Administrative Branch, Ordnance Department, Washington, D. C.

Niel Petersen, chairman of Screw Threads Committee, Canadian Standards Association; president and general manager of the Canadian Acme Screw & Gear Company, Ltd., Toronto, Ontario.

Frank E. Richardson, senior engineer, Army Air Forces, the Aeronautical Board, War and Navy Departments, Washington, D. C.

James T. Kemp, Mission for Economic Affairs, Combined Production and Resources Board, London, *Secretary.*

British members were:

Stanley J. Harley, B.Sc., Controller of Jigs, Tools and Gauges, Ministry of Supply, *Chairman*

Percy Good, CBE, Director, British Standards Institution, *Vice-Chairman.*

Francis W. Elstub, Messrs Alfred Herbert, Ltd.

John E. Sears, CBE, M.A., Superintendent, Meteorology Department, National Physical Laboratory; Chairman, British Standards Institution Pipe Thread Committee.

Frederick H. Rolt, MBE, B.Sc., Director of Gauges and Measuring Instruments, Ministry of Supply; Chairman, British Standards Institution Screw Thread Committee.

James E. Baty, Consultant; Chairman, British Standards Institution Limits and Fits Committee.

H. L. Griffiths, B.Sc., British Standards Institution, *Secretary.*

A complete story in regard to the discussions will be published in a future issue.

## ASA Receives Brazilian Publications on Cement

The Inter-American Department and Library of the American Standards Association are indebted to Abilio de Azevedo Caldas Branco of Rio de Janeiro, Brazil, for a copy of a paper presented by Mr. Caldas Branco at the last meeting of ABNT (Brazilian Standards Association) and which has now been published in book form. The work is entitled *Application of the Eight-Hour Compression Test to Cement.*

Mr. Caldas Branco is a prominent Brazilian civil engineer who has published a number of technical books in his country. The ASA Library has also received a copy of his *Five Types of Portland Cement* and one of *Concrete—20 Tables—Parts in Volume* by the same author. All of these books are published in Portuguese.

## New Company Members Of the American Standards Association

The following companies recently have become members of the American Standards Association:

Elastic Stop Nut Corporation of America, Union, N. J.
Maloney Electric Company, St. Louis, Mo.
National Cash Register Company, Dayton, Ohio
National Surety Corporation, New York, N. Y.

As ASA members these companies will receive copies of the ASA monthly magazine, free copies of newly published standards, 20 percent discount on all American Standards, use of the library and information service, and direct and authoritative information about standardization projects.

# Post-War Standardization

by J. B. Carswell, OBE

STANDARDIZATION is distinctly a creative job. It might be defined as the art of determining, and establishing in use, the best design, quality, method or process, for performing a desired function.

*Simplified practice* on the other hand, is an eliminating job. The job of dealing, as someone said, in tremendous trifles. It could be defined as the method of eliminating superfluous variety through the voluntary action of an industrial or commercial group.

By pursuing these two movements, we arrive at Interchangeability, which results in conservation of materials and manpower, or negatively to the elimination of waste. The sum total spells out to Progress.

What forces are with us and what forces are against us, as we strive after the goals of universal standardization and complete simplification in practice?

### Four Enemies of Standardization

We are faced with four great enemies. The first is Ignorance, the second is Fear, the third is Selfishness; and the fourth is one for which I, personally, have a kind of sneaking regard. It is hard to give him a name. The best I can think of is Individuality.

On the other hand, we have fighting for us three great allies. The first is Common Sense, the second is Economy, and the third is that intangible thing, which, again for the lack of a better name, I call Universal Brotherhood.

We need not spend much time in analyzing our friendly allies. Everyone knows that universal standards and complete simplicity of practice are only common sense, and that the results would mean maximum economy in industry. And we all should know that if we ever reached that Fabian state of universal brotherhood, nothing but our own stupidity could prevent our reaching our goals in short order.

But what about our enemies? They must be sized up very carefully.

The first one—Ignorance. Well! he is not so formidable. We are wearing him down right now. We have been wearing him down, for years back, by ordinary hard work. He is not an aggressive type of enemy. He is merely an obstruction that has to be whittled away to make room for progress.

The second enemy—Fear—is much more dangerous. It takes just such a war as the present one to bring into sharp focus the extent to which Fear, in the past, has blocked the progress of universal standardization.

You may say to me that everyone knows that the military authorities will not, at any price, have universal standardization, and that, for the time being, we must accept that. That was fine during the last century. It was not even serious up to the last war. We could simply by-pass these stupidly conservative military fellows and apply our efforts to the great civilian field. But today, when mechanized warfare has enlisted the complete field of engineering science, the situation becomes really serious.

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This article is an abstract of an address presented by Mr. Carswell at a meeting in Toronto, May 9, 1944, sponsored by the Affiliated Engineering and Allied Societies in Ontario. Mr. Carswell is president of the Canadian War Assets Corporation, Ltd. The address was published in full in the August issue of the Bulletin of the American Society for Testing Materials. An account of the meeting in which C. L. Warwick, ASTM Secretary-Treasurer, and Colonel W. R. McCaffrey, secretary of the Canadian Standards Association, participated, was published in the May ASTM Bulletin.

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Who can say today whether a ship, or an airplane, or a truck is a vehicle of war or a vehicle of peace? The line of demarcation has disappeared, and military fears are steadily encroaching on what used to be our purely civilian territory. We cannot by-pass this enemy any more, for he will attack us on the flank. He has to be reckoned with. I firmly believe that in the next few years, the progress of standardization must face this new problem with all the courage and energy at its command.

Surely, we could fight for an acceptance of common standards amongst the English-speaking nations of the world, leaving the universal problem to our children and our grandchildren. Is it not a frightful commentary on the common sense of the people on this North American continent that, when this war broke out, there was not a single gun or a single round of ammunition common to the U. S. and the Canadian forces. We make, and still make, 0.303 cartridges. The U. S. made, and still makes, 0.30 cartridges. How in all the earth do we reconcile these miserable three one-thousands of an inch, and all the implications that follow in the wake, with our joint glowing tributes to the undefended frontier and the hundred years of peace and fellowship?

### The Airplane of Tomorrow Calls for Standardization

Canada, with the rest of the world, is about to establish an international air policy. If there is one great and growing industry in the world, shouting for the need of universal standardization, surely it is the aircraft industry. The airplane of tomorrow will be serviced in Moscow on Monday, in Berlin on Tuesday, in Lisbon on Wednesday, and in Toronto on Thursday; but will the aeronautical engineer be given a free hand, or will the giant Fear whisper successfully in the ears of governments. "Look out now, these planes are carrying goods and passengers today, but it may be bombs and guns tomorrow?"

Only a few weeks ago, quite a lot of people lost their lives in a small but boisterous South American Republic, when some civilian planes were sent up in the air to drop explosives in aid of a revolting political party.

These planes had been given to the republic by a friendly neighbor to assist in the peaceful pursuits of industry.

So you see, we are far from discussing a purely academic theory. In fact, phases of this problem are on my desk right now in connection with this new job which the Government has seen fit to give me.

But let us pass on to the third enemy, Selfishness. He is the brother of Fear. They work as a team.

I wonder how many of us realize that on September 3, 1939 (or if our American friends please, December 7, 1941), two things happened. A war was declared, and an armistice was signed on the same day. Up until these dates, talking both domestically and internationally, we had been fighting, sometimes quite bitterly, to destroy each other's operating accounts. We called a halt on this gentlemanly war, and decided to go after the capital assets instead.

Now, when this war to destroy capital is over, the other war, naturally, will start again, and once more we will be engaged on the interminable job of trying to steal an unwarranted proportion of the other fellow's business. And then it is, when selfishness comes in for his innings. He whispers to the British industrialist, "Be careful now, if you start adopting universal standards, you will jeopardize your foreign trade which is tied up now with your peculiar trade practices." Our friend and ally, common sense, may be whispering in the other ear "But don't you see, it will widen your market and everyone's market."

Personally, I am a little pessimistic on the outcome. We travel on to the last enemy—that rather likeable fellow, Individuality.

He can be dealt with, if you recognize clearly his dual personality. His only argument is that you and I and every free-born citizen demand that we continue free to express our egos in the way we desire; that we do not want to be standardized; that standarization and regimentation are almost synonymous. He will ask you what you are fighting for. He will quote you the Four Freedoms. In fact, he will try to get you all confused.

### Elimination of Waste Calls for Standardization

The answer is quite clear. No one wants to see material production in this world so standardized that we cannot tell whether we are walking down Fifth Ave., New York, or the Champs Elysees in Paris. The aesthetic things in life will never be standardized, but in the utilitarian things behind the scenes, what a field there is for progress; what a field for elimination of waste and useless duplication!

Standardization, like charity, really begins at home. When we think of our problem in national terms instead of international, how much simpler it all becomes. Today, at least on this continent, the educational battle has been won. We all accept the movement toward standardization and simplified practice as an imperative phase of industrial progress.

When this war is over, the work of CSA in Canada, of the British Standards Institution in Great Britain, and of the American Standards Association in the States, I would predict, is going to increase many fold. Not only has the war shown up a thousand wasteful practices in which we were indulging, but it has done something else. It has brought into being a flood of completely new industries.

Here we have a chance to start at the very beginning. Radar, plastics, advanced aeronautics, and many others, in all their ramifications, must be taught to walk in the paths of standardization and simplicity. These children are growing very fast. Let us look out that we do not delay the start too long.

Let me add just one word of warning to those engaged in the work of standardization. We should never allow this work to clash in any way with the rapid strides of obsolescence, which have been so marked on this continent since the turn of the century. There may arise situations where the work of standardization has barely been completed, when the product involved is swept aside by the march of invention and ingenuity. Let it be swept aside! So, only, can we maintain a healthy, stimulated economy.

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## New War Standards Give Dimensions For Camera and Projector Apertures

American War Standards for the photographing aperture of 35-mm motion picture cameras, Z52.35-1944, and the picture projection aperture of 35-mm motion picture projectors, Z52.37-1944, have been approved by the American Standards Association. These standards were developed through Subcommittee H on 35-mm cinematography of the War Committee on Photography and Cinematography, Z52, with the active participation of the Society of Motion Picture Engineers and the Research Council of the Academy of Motion Picture Arts and Sciences. They are part of a series being developed by the War Committee at the request of the Armed Forces and the War Production Board.

The new standards are inter-related and are the result of long industry experience as to the proper size of the picture to be registered on the film in professional motion picture cameras and the optimum part of the picture to be projected in motion picture theatres, taking account of the various variables introduced in the processing and projection of the film, such as film shrinkage, and camera, printer, and projector weave.

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## ASTM Advances Publication Of Its Book of Standards

Heavy demands for the 1942 Book of ASTM Standards and its Supplements occasioned by the requirements of war production have necessitated advancing by a full year publication of the next edition, the American Society for Testing Materials has just announced. Normally this edition would come out in November-December 1945 on the triennial basis, but instead it will be issued in December 1944.

Widely used by American industry and many branches of state and federal governments, this book provides authoritative specifications and tests for a wide range of engineering materials. The new edition will cover some 6000 pages in three parts: I, Metals; II, Non-metallic Materials—Constructional (cement, lime, concrete, paint, etc.); III, Non-metallic Materials—General (petroleum, textiles, plastics, coal, rubber, etc.).

Headquarters of the ASTM are at 260 South Broad Street, Philadelphia 2, Pa.

# Standards Issued by Associations and Government

(For new American Standards see pages 215, 217)

For the information of ASA Members, the American Standards Association gives here a list of standards received by the ASA Library during the last month. The list below includes only those standards which the ASA believes are of greatest interest to Members.

These standards may be consulted by ASA Members at the ASA Library, or copies may be obtained from the organization issuing the standard. The address of the organization is included for your convenience in ordering.

## Associations and Technical Societies

### American Society for Testing Materials (260 South Broad Street, Philadelphia 2, Pa.)

*The letter T following a designation indicates the standard is Tentative. Standards are 25¢ each.*

*Tentative Specifications for:*
- Black Synthetic Iron Oxide D769-44T
- Burnt Sienna D766-44T
- Burnt Umber D764-44T
- Cellular Rubber Products D798-44T
- Drawn or Rolled Alloy, 80 Per Cent Nickel, 20 Per Cent Chromium, for Electrical-Heating Elements B82-44T
- Drawn or Rolled Alloy, 60 Per Cent Nickel, 16 Per Cent Chromium and Balance Iron, for Electric-Heating Elements B83-44T
- Glazed Masonry Units C126-44T
- GR-M Polychloroprene Sheath Compound for Electrical Insulated Cords and Cables D752-44T
- GR-M Polychloroprene Sheath Compound for Electrical Insulated Cords and Cables Where Extreme Abrasion Resistance Is Not Required D753-44T
- Insulated Wire and Cable: Performance Synthetic Rubber Compound D755-44T
- Isopropyl Alcohol D770-44T
- Liquid Toilet Soap D799-44T
- Raw Sienna D765-44T
- Raw Umber D763-44T
- Tetrasodium Pyrophosphate (Anhydrous) D595-44T
- Venetian Red D767-44T
- Yellow Iron Oxide, Hydrated D768-44T

*Tentative Methods of:*
- Evaluating Degree of Resistance to Flaking (Scaling) of Exterior Paints of the Linseed-Oil Type D772-44T
- Chemical Analysis of Industrial Metal Cleaning Compositions D800-44T

*Tentative Methods of Test for:*
- Daylight 45 Degree, O Degree Apparent Reflectance of Paint Finishes D771-44T
- Equivalent Yield Stress of Thermostat Metals B191-44T
- Power Factor and Dielectric Constant of Electrical Insulating Materials D150-44T
- Specular Gloss of Paint Finishes D523-44T

*Tentative Definitions of:*
- Terms Relating to Paint, Varnish, Lacquer, and Related Products D16-44T

*Standard Specifications for:*
- Basic Sulfate White Lead D82-44
- Building Brick (Made from Clay or Shale) C62-44
- Compound Chip Soap (With Rosin) D600-44
- Compound Powdered Soap (Granulated, With Rosin) D691-44
- Hollow Load-Bearing Concrete Masonry Units C90-44
- Isopropyl Acetate D657-44
- Lead-And Tin-Base Alloy Die Castings B102-44
- Trisodium Phosphate D538-44
- Zinc Oxide D79-44

*Standard Methods of:*
- Chemical Analysis of Dry Red Lead D49-44
- Evaluating Degree of Resistance to Chalking of Exterior Paints of the Linseed-Oil Type D659-44
- Evaluating Degree of Resistance to Checking of Exterior Paints of the Linseed-Oil Type D660-44
- Evaluating Degree of Resistance to Cracking of Exterior Paints of the Linseed-Oil Type D661-44
- Evaluating Degree of Resistance to Erosion of Exterior Paints of Linseed-Oil Type D662-44
- Measuring Dimensions of Rigid Tubes Used in Electrical Insulation D668-44
- Sampling and Chemical Analysis of Soaps and Soap Products D460-44
- Sampling and Mixing Thermal Insulating Cement C163-44
- Sampling and Testing Aluminum Powder and Paste D480-44
- Sampling and Testing Lacquer Solvents and Diluents D268-44
- Testing Glass Spool Insulators D550-44
- Testing Solid Filling and Treating Compounds Used for Electrical Insulation D176-44
- Testing Steatite Used As Electrical Insulation D667-44

*Standard Definitions of:*
- Terms Relating to Thermal Insulating Materials C168-44

*Standard Methods of Test for:*
- Abrasion Resistance of Organic Coatings with the Air Blast Abrasion Tester D658-44
- Bulk Density of Thermal Insulating Cement C164-44
- Consistency of Exterior House Paints and Enamel-Type Paints D562-44
- Dielectric Strength of Electrical Insulating Materials at Commercial Power Frequencies D149-44
- Product Uniformity of Phenolic Laminated Sheets D634-44
- Punching Quality of Phenolic Laminated Sheets D617-44
- Resistance to Light Checking and Cracking of Rubber Compounds D518-44
- Thickness and Density of Blanket Type Thermal Insulating Materials C167-44
- Tear Resistance of Vulcanized Rubber D624-44

### Society of Automotive Engineers (29 West 39th Street, New York 18, N. Y.)

Aeronautical Standards

New and Revised Aeronautical Standards and Recommended Practices, Sept. 1, 1944: (In one volume.) 70¢
- Enclosure, Storage and Shipping (Aircraft Engine) AS 6A
- Cap, Propeller Shaft, Shipping AS 173
- Collar, Propeller Shaft, Shipping AS 160
- Lifting Eye, Propeller Shaft AS 161
- Nut, Propeller Shaft Shipping AS 172
- Wheel and Axle Dimensions, High Pressure-Stub Axle Type AS 185
- Wheel and Axle Dimensions, High Pressure-Stub Axle Type, Size 24 x 5-14 AS 186

Wheel and Axle Dimensions, Tail Wheel, High Pressure-Straight Axle Type AS 181
Wheel and Axle Dimensions, Tail Wheel, High Pressure-Stub Axle Type AS 182
Preservation and Packaging of Aircraft Engine Parts ARP 197
Aeronautical Information Report No. 8

**American Welding Society (33 West 39th Street, New York 18, N. Y.)**

Fusion Welding Piping in Marine Construction, Rules for 25¢

**American Iron and Steel Institute (350 Fifth Avenue, New York, N. Y.)**

Steel Products Manual
Steel Tubular Products, Sec. 18

**The Tire and Rim Association, Inc. (2001 First-Central Tower, Akron 8, Ohio)**

Airplane Handbook, July, 1944
Passenger Car Handbook, September, 1944

**Underwriters' Laboratories, Inc. (207 East Ohio Street, Chicago)**

Bulletin of Research, Sept., 1944
Fire Hazard Classification of Building Materials
Bulletin of Research, April, 1944
Combustion and Mechanical Noise in Automatic Mechanical-Draft Oil Burners

## U. S. Government

**(Wherever a price is indicated, the publication may be secured from the Superintendent of Documents, Government Printing Office, Washington, D. C. In other cases, copies may be obtained from the government agency concerned.)**

### National Bureau of Standards (Washington 25, D. C.)

**Simplified Practice Recommendation**

Metal Lath (Expanded and Sheet) and Metal Plastering Accessories R3-44 5¢

## Dickinson Is New Member of SCCC Executive Committee

J. A. Dickinson, senior mechanical engineer and chief of the Section on Safety Codes, National Bureau of Standards, has been elected a new member of the Executive Committee of the Safety Code Correlating Committee. Mr. Dickinson replaces W. T. Cameron, formerly chief safety advisor, Division of Labor Standards, U. S. Department of Labor, who recently left the Department to join the staff of the American Optical Company.

Other members of the Executive Committee are:

W. R. Smith, safety engineer, Electrical Department, Public Service Electric and Gas Company, *Chairman*
J. P. Craugh, Board of Standards and Appeals, N. Y. Department of Labor, *Vice-chairman*
L. F. Adams, assistant to vice-president, General Electric Company
H. L. Miner, manager, Safety and Fire Prevention, E. I. duPont de Nemours & Company, Inc
W. S. Paine, manager, Engineering and Inspection Department, Aetna Casualty and Surety Company
C. E. Pettibone, vice-president and manager, Engineering Department, American Mutual Liability Insurance Company

## Missouri Health Authorities Want More Toxic Dust Standards

THE American Standards defining allowable concentrations for toxic dusts and gases are a great help to health authorities in Missouri and more of these standards should be completed as soon as possible, the American Standards Association has been told in a recent letter from Robert M. Brown, Public Health Engineer and Supervisor of the Industrial Hygiene Service of St. Louis.

The present list of recommended allowable concentrations of toxic materials used by health agencies throughout Missouri is now being revised and the American Standard Allowable Concentrations are being used as a basis for the new recommendations, Mr. Brown declares.

"Those of us carrying on industrial hygiene activities in St. Louis are very much in accord with your committee which develops the ASA recommended allowable concentrations," Mr. Brown explains. "These standards have proved helpful to us in making recommendations for control of hazardous exposures by serving as a reference point recognized both by us and industry. We recognize and appreciate the great care and consideration given to each standard before it is finally adopted for use. My only suggestion is that more of these standards be developed as rapidly as your very careful procedure will permit."

Up to the present time American Standards have been completed defining allowable concentrations of carbon monoxide, hydrogen, sulfide, carbon disulfide, benzene, chromic acid and chromates, mercury, lead and certain of its inorganic compounds, toluene, oxides of nitrogen, methanol, and formaldehyde. American War Standards have been completed for cadmium, manganese, metallic arsenic and arsenic trioxide, xylene, and styrene monomer.

## Navy Asks NBS to Develop Turbidimetric Standards

Lubricating oil in steam condensates produced by the reciprocating engines which power small aircraft carriers and transports must be removed by filters before the water can be used again in the ship's boilers. With increased shipping of both task force and supply nature, Navy Department engineers have felt the need for turbidimeters and turbidity standards for determining the amount of emulsified oil in the steam condensates and clarified filtrates.

At the request of the Navy Department, Bureau of Ships, the National Bureau of Standards has now developed standards of turbidity for oil-in-water emulsions ranging from 0 to 2 parts per million oil. These standard emulsions have been developed to deteriorate as little as possible during a 6-month period.

The Bureau of Ships also asked the NBS to stimulate the development and production of shipboard turbidimeters. The resulting instruments will be tested at the National Bureau of Standards according to performance specifications set up jointly by the Bureau of Ships and the NBS.

American Standards Association
70 East 45th Street, New York 17, N. Y.

October 1944

# Company Member Application for Free Standards

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| ..... | B16b-1944 | | Cast-Iron Pipe Flanges and Flanged Fittings (Class 250) ..... | .45 |
| ..... | Z22.34-1944 | | Cutting and Perforating Negative Raw Stock for 35-Mm Motion Picture Film ..... | .10 |
| ..... | Z22.36-1944 | | Cutting and Perforating Positive Raw Stock for 35-Mm Motion Picture Film | .10 |
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| ..... | Z22.38-1944 | | Raw Stock Cores for 16-Mm Motion Picture Film | .10 |
| ..... | Z22.39-1944 | | Screen Brightness for 35-Mm Motion Pictures | .10 |
| ..... | Z34.1/19..... | | Practice in Public Approval and Certification Procedures, Proposed American Standard | single copy gratis, additional copies 10¢ each |
| ..... | Z38.1.41-1944 | | Dimensions for Leaders, Trailers, and Roll Film for Aerial Photography | .10 |
| ..... | Z38.1.42-1944 | | Designation of Emulsion Side of Photographic Sheet Films | .10 |
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| ..... | Z38.4.10-1944 | | Dimensions of Front Lens Mounts for Cameras | .10 |
| ..... | Z38.7.4-1944 | | Specifications for Projectors for Opaque Materials for Use in Small Auditoriums | .10 |
| ..... | Z38.7.10-1944 | | Specifications for Contact Printers | .10 |
| ..... | Z38.7.11-1944 | | Specifications for Printing Frames | .10 |
| ..... | Z38.7.12-1944 | | Specifications for Masks (Separate) for Use in Photographic Contact Printing | .10 |
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| ..... | Z38.8.1-1944 | | Practice for Temperature of Processing Solutions | .10 |
| ..... | Z52.3-1944 | | Specification for 16-Mm Motion Picture Release Prints (American War Standard) (JAN-P-55) | gratis |
| ..... | Z52.35-1944 | | Photographing Aperture of 35-Mm Motion Picture Cameras (American War Standard) | .10 |
| ..... | Z52.37-1944 | | Picture Projection Aperture of 35-Mm Motion Picture Projectors (American War Standard) | .10 |
| ..... | L18.7-1944 | | Welders' Leather Gauntlet Gloves | .30 |
| ..... | L18.8-1944 | | Protective Leather Gloves, Steel-Stapled | |
| ..... | L18.9-1944 | | Asbestos Gloves | |
| ..... | L18.10-1944 | | Asbestos Gloves, Leather Reinforced | |
| ..... | L18.11-1944 | | Asbestos Mittens | |
| ..... | L18.12-1944 | | Asbestos Mittens, Leather Reinforced | |

(American War Standard Specifications for Protective Occupational (Safety) Clothing)


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| ..... | Z38.1.43-1944 | | Dimensions of Inch-Size Photographic Papers | .10 |
| ..... | Z38.1.44-1944 | | Designation for Thickness of Photographic Paper | .10 |
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| ..... | L18.10-1944 | | Asbestos Gloves, Leather Reinforced | |
| ..... | L18.11-1944 | | Asbestos Mittens | |
| ..... | L18.12-1944 | | Asbestos Mittens, Leather Reinforced | |

(American War Standard Specifications for Protective Occupational (Safety) Clothing)

# ASA Standards Activities

## American Standards

### American Standards Available Since Our September Issue

See "Company Member Application for Free Standards" (page 215)

### American Standards Approved Since Our September Issue

Specifications for Hollow Load-Bearing Concrete Masonry Units (Revision of ASTM C 90-39; ASA A79.1-1942) A79.1-1944

Methods of Sampling and Testing Brick (Revision of ASTM C 67-41; ASA A82.1-1942) A82.1-1944

Specifications for Carbon-Steel Castings for Valves, Flanges, and Fittings for High-Temperature Service (Revision of ASTM A 95-41; ASA G17.1-1942) G17.1-1944

Specifications for Alloy-Steel Bolting Material for High-Temperature Service (Revision of ASTM A 96-39; ASA G17.2-1939) G17.2-1944

Specifications for Carbon-Steel Castings Suitable for Fusion Welding for Miscellaneous Industrial Uses (Revision of ASTM A 215-41; ASA G51.1-1943) G51.1-1944

Specifications for Alloy-Steel Castings for Structural Purposes (Revision of ASTM A 148-42; ASA G52.1-1943) G52.1-1944

Specifications for Free-Cutting Brass Rod for Use in Screw Machines (Revision of ASTM B 16-42; ASA H8-1942) H8-1944

Specifications for Zinc Oxide (Revision of ASTM D 79-41; ASA K22-1941) K22-1944

Methods of Chemical Analysis of Dry Red Lead (Revision of ASTM D 49-37; ASA K16.1-1937) K16.1-1944

Methods of Laboratory Sampling and Analysis of Coal and Coke (Revision of ASTM D271-43; ASA K18.1-1944) K18.1-1944

Methods of Designating the Size of Coal from Its Screen Analysis (Revision of ASTM D 431-38; ASA M20.3-1938) M20.3-1944

Test for Viscosity by Means of the Saybolt Viscosimeter (Revision of ASTM D 88-38; ASA Z11.2-1938) Z11.2-1944

Test for Sulfur in Petroleum Oils by Bomb Method (Revision of ASTM D 129-39; ASA Z11.13-1939) Z11.13-1944

Test for Saponification Number of Petroleum Products (ASTM D 94-44) Z11.20-1944

Test for Gum Content of Gasoline (Revision of ASTM D 381-42; ASA Z11.36-1942) Z11.36-1944

American Standards Approved (Continued)

Test for Knock Characteristics of Motor Fuels (ASTM D 357-44) Z11.37-1944

Test for Oil Content of Paraffin Wax (ASTM D 721-44) Z11.52-1944

Conversion of Kinematic Viscosity to Saybolt Furol Viscosity (ASTM D 666-44) Z11.53-1944

*Sponsor:* American Society for Testing Materials

### Standards Being Considered by ASA for Approval

Code for Pressure Piping, Proposed Supplement to B31.1-1942
*Sponsor:* American Society of Mechanical Engineers

Graphical Symbols for Telephone, Telegraph, and Radio Use (Proposed Revision of Z32.5-1942)
*Sponsors:* American Institute of Electrical Engineers; American Society of Mechanical Engineers

Safety Code for Prevention of Dust Explosion in Starch Factories (Proposed revision of Z12.2-1942)

Safety Code for Explosion and Fire Protection in Plants Producing or Handling Magnesium Powder or Dust, Proposed American Standard Z12.15
*Sponsors:* National Fire Protection Association; U. S. Department of Agriculture

Testing Wool Felt (Revision of ASTM D 461-40; ASA L16.1-1942)
*Sponsor:* American Society for Testing Materials

### Standards Submitted to ASA Since Our September Issue

Carbon-Steel Castings for Miscellaneous Industrial Uses (Revision of ASTM A 27-42; ASA G50.1-1943)
*Sponsor:* American Society for Testing Materials

Picture Sizes for Roll Film Cameras (Proposed revision of Z38.4.8-1943)

Back Window Location for Roll Film Cameras Z38.4.9

Threads for Attaching Mounted Lenses to Photographic Equipment Z38.4.11

Attachment Thread Specifications for Lens Accessories Z38.4.12

Distance (Focusing) Scales Marked in Meters Z38.4.13
*Sponsor:* Optical Society of America

### Withdrawal of Approval Requested

Steel Blooms, Billets, and Slabs for Forgings (ASTM A 17-29; ASA G9.1-1933)
*Sponsor:* American Society for Testing Materials

## American War Standards

### War Standards Approved and Available Since Our September Issue

Specifications for Protective Occupational (Safety) Clothing
Welders' Leather Gauntlet Gloves L18.7-1944
Protective Leather Gloves, Steel-Stapled L18.8-1944
Asbestos Gloves L18.9-1944
Asbestos Gloves, Leather Reinforced L18.10-1944
Asbestos Mittens L18.11-1944
Asbestos Mittens, Leather Reinforced L18.12-1944

Photography and Cinematography
Multi-frequency Test Film Used for Field Testing 16-Mm Sound Motion Picture Projection Equipment Z52.8-1944 10¢
16-Mm Motion Picture Release Prints Z52.3-1944

### War Standards Under Way

Color Code for Lubrication of Machinery Z47

Cylindrical Fits B4.1

(*Continued on next page*)

War Standards Under Way (Continued)

Linemen's Rubber Protective Equipment J6
Machine Tool Electrical Standards (Revision of C74-1942)
Photography and Cinematography Z52
- Specification for Test Film for Checking Adjustment of 16-Mm Sound Motion Picture Projection Equipment Z52.2
- Specification for Class II Service Model 16-Mm Sound Motion Picture Projection Equipment Z52.13
- Nomenclature for Motion Picture Film Used in Studios and Processing Laboratories Z52.14
- Method of Making Intermodulation Tests on Variable Density 16-Mm Sound Motion Picture Prints Z52.15
- Specification for Photographic Contact Printer Z52.18
- Specification for Photographic Enlarger Z52.23
- Specification for Auditorium Type Slide Film Projector Z52.28
- Specification for Classroom Type Slide Film Projector Z52.29
- Specification for Leaders, Cues and Trailers for 16-Mm Sound Motion Picture Release Prints Processed from Original 16-Mm Material Z52.31
- Specification for Warble Test Film Used for Testing 16-Mm Sound Motion Picture Equipment Z52.32
- Specification for 16-Mm Motion Picture Film Reels Z52.33
- Dimensions for Film-Reel Spindles for 16-Mm Sound Motion Picture Equipment Z52.34
- Sound Records and Scanning Area for 35-Mm Sound Motion Picture Prints Z52.36
- Method of Determining Signal-to-Noise Ratio of 16-Mm Sound Motion Picture Prints Z52.38
- Method of Making Cross-Modulation Tests on Variable Area 16-Mm Sound Motion Picture Prints Z52.39
- Method of Determining Printer Loss in 16-Mm Sound Motion Picture Prints Z52.40
- Sizes of Photographic Projection Screens Z52.41

Protective Occupational (Safety) Clothing L18
- Women's Safety and Powder Caps L18.13
- Asbestos Aprons L18.14
- Asbestos Cape Sleeves and Bibs L18.15
- Asbestos Leggings L18.16
- Asbestos Coats L18.17
- Leather One-Finger Mittens L18.18
- Leather Mittens L18.19
- Asbestos One-Finger Mittens L18.20
- Flame-Resistant Fabric
  - Aprons (Bib Type) L18.21
  - Leggings (Knee and Hip Length) L18.22
  - Coats L18.23
  - Pants L18.24
  - Coveralls L18.25
  - Spats L18.26
- Leather Spats L18.27
- Asbestos Spats L18.28

Resistance Welding Equipment C52
- Resistance Welding Electrodes and Electrode Holders C52.3
- Specifications for Design and Construction of Resistance Welding Equipment C52.4

Safety Color Code for Marking Physical Hazards Z53
Safety Code for the Industrial Use of X-Rays Z54
Screw Threads B1
- Acme Screw Threads B1.5

### New War Project Initiated

Methods of Measuring Radio Noise C63

## ASA Annual Meeting December 8

The Annual Meeting of the American Standards Association will take place December 8, at the Hotel Roosevelt, New York.

Luncheon at one o'clock will be preceded by a meeting of the Standards Council in the morning and followed by a meeting of the Board of Directors in the afternoon.

A guest speaker will be announced later.

# News About ASA Projects

### Advisory Committee on Ultimate Consumer Goods—

Lists of textile commodities for which more detailed test information should be obtained were submitted by the Subcommittee on Textile Test Methods at a recent meeting of the Advisory Committee on Ultimate Consumer Goods. The lists, classified as to requirements for specific testing techniques, will be circulated to subcommittee members for further advice, comment, and priority rating.

Test items submitted included tests of warmth and water repellency for children's snow suits; tests of air porosity and water repellency for raincoats; tests of air porosity, warmth, washability for blankets; tests of air porosity, warmth, shrinkage, abrasion for men's and women's outerwear; tests of strength and absorbency for sanitary napkins; tests of snagging, and juncture point strength for men's and women's hosiery; tests of seams, shifting, color for blouses and dresses; tests of abrasion, color to ironing, shrinkage for children's play clothing; tests of shifting, seams, shrinkage for lingerie; tests of wear and construction for children's shoes.

### Building Code Requirements for Iron and Steel (A57; A87)—

Division into two projects of the work on building code requirements for iron and steel was approved by the Standards Council, September 15.

The first project—Building Code Requirements for Structural Steel—continues that part of the work which led to approval of the first standard from the sectional committee in 1943. The ASA designation, A57, will be retained and work will continue under the technical leadership of the American Institute of Steel Construction and the American Society of Civil Engineers.

The second project will include development of building code requirements for iron and steel other than structural steel. This project, for which a sectional committee will be organized, will be carried on under the direction of the American Iron and Steel Institute and the American Society of Civil Engineers. ASA designation of the new project is A87.

Rearrangement of work on iron and steel resulted from extensive study by the Building Code Correlating Committee of the original program of Committee A57. It is believed that reorganization will expedite development of standards for building code requirements for iron and steel.

### Household Refrigerators (B38)—

Sectional committee B38 is considering additional tests for household electric refrigerators. Experience gained by manufacturers in operating under government regulations leads the committee to believe that work on refrigerators cooled with ice can be resumed.

### Electric Ranges (C71)—

A draft of a proposed standard on methods of testing electric ranges, using basic standards developed by NEMA, is being prepared for the consideration of sectional committee C71. Data previously compiled from performance tests for gas ranges was found inapplicable to electric ranges.

### Electric Water Heaters (C72)—

Recent surveys show that manufacturers and public utilities executives are interested in developing uniform scales of capacities and power requirements for electric water heaters. Public utility executives are even considering the remodeling of rate structures, in some instances, provided national standards with resulting economies are obtained.

### Bedding and Upholstery (L12)—

A joint meeting of sectional committee L12, the National Association of Bedding and Upholstery Law Enforcement Officials, and the committee on unification of labeling of the National Association of Bedding Manufacturers was held in Chicago, August 1, 2, and 3. At this meeting revisions were accepted in drafts of three proposed standards on cotton, wool, and miscellaneous filling materials. Letter ballot action on revised drafts was authorized.

### War Committee on Protective Occupational Clothing (L18)—

The following meetings of the war committee and subcommittees on protective occupational clothing were held in October: Meeting of the full War Committee on Protective Occupational Clothing, Wednesday, October 18; meeting of the Subcommittee on Hand Protection, Tuesday, October 17: meeting of the Subcommittee on Garments of Asbestos, Leather, and Flame-Resistant Materials on Thursday, October 19.

### Safety Code for Grandstands (Z20)—

The Standards Council, upon recommendations of the Building Code Correlating Committee, has approved expansion of the proposed safety code for grandstands to include standards to protect the public against fire, storm, and other catastrophes in tents and places of outdoor assembly in addition to requirements dealing with permanent and temporary outdoor stands, and portable stands. The Building Officials Conference of America and the National Fire Protection Association have been approved as sponsors for the expanded project.

### Color Code for Lubrication of Machinery, Z47—

After having considered comments received from a number of key individuals on a proposed American War Standard Color Code for Lubrication of Machinery, ASA War Committee Z47 is now taking a letter ballot vote on whether the revised draft shall be submitted to ASA for final approval.

## New Standards from Other Countries

THE following new and revised standards, just received from other countries by the American Standards Association, may be borrowed by ASA Members, or ordered through the ASA Library.

#### Great Britain

Deoxidised and Arsenical Coppers BS1172-4:1944
Milled Lead Sheet and Strip for Building Purposes BS1178:1944
Sizes of Stress-Graded Softwood Timber BS1175:1944
Steel Eyebolts BS529:1944
Part 1: With Collars
Part 2: Without Collars for Lift Suspension

#### War Emergency Standards

Air Drying Black Paint for Cooking Appliances BS1176:1944
Pitch Mastic Flooring Incorporating Lake Asphalt BS1177:1944
Pitch Mastic Flooring BS1093:1944

#### South Africa

Standard Specification for Black and Galvanized (Zinc Coated) Mild Steel Sheets S.A.S.S.No.65-1944

## International Labour Office Publishes Monograph on Abrasive Wheels

### by Dan F. Hayes

*Safety Engineer, American Standards Association*

THE International Labour Office has published a monograph entitled *The Safe Installation and Use of Abrasive Wheels.* This interesting document will be recognized as a textbook which should be in every safety engineering library.

In addition to the regulations for grinding-wheel safety in England, Germany, and the United States, the composition and manufacture of abrasive wheels, accidents and injuries caused by them, precautions against bursting, and other sources of accidents have been thoroughly treated. Recent experience is recognized in the grinding of magnesium, where particular hazards are encountered. Typical guard installations are well illustrated with photographs and sketches.

Particularly worthy of note to those interested in the theory of internal stresses in grinding wheels are two appendices, one by Dr. Vitaliano Columbo on the analysis of the resistance of abrasive wheels, and the other by Thomas H. Frost and K. F. Whitcomb which outlines the results of the application of the photoelectric method to the determination of internal stresses developed by a revolving wheel.

The sectional committee which developed the American Standard Safety Code for the Use, Care, and Protection of Abrasive Wheels, B7-1943, will be gratified to note that the code is published in its entirety in the monograph, where it receives international recognition. The Grinding Wheel Manufacturers Association and the International Association of Industrial Accident Boards and Commissions are sponsors for this committee under the procedure of the American Standards Association.

G. Stevenson Taylor, OBE, H. M. Deputy Chief Inspector of Factories, London, is credited with having prepared the ILO monograph, which was considered and discussed by the ILO Correspondence Committee in sessions in 1934 and 1935. Mr. Taylor is to be commended for having produced a factual and useful volume.

(The Safe Installation and Use of Abrasive Wheels. The International Labour Office, Montreal, Canada, $1.00.)

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